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High-performance POWERS processors.	Runs IBM AIX SL™ and Linux.†	Innovative modular design.	Capacity on demand capabilities†	Advanced virtualization options.
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General Admission



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It takes an integrated security solution to make sure the right people have the right access at the right time.

eTrust[®] Identity and Access Management Solutions

These days, a vital aspect of security management is providing customized levels of access for countless employees and partners while also protecting your customers from identity theft. That's one complicated job—and one that can be made much easier with CA's eTrust Identity and Access Management (IAM) Solutions. They enhance security and reduce costs by automating processes and enabling self-administration, in addition to providing policy-based cross-platform protection for web, mainframe, and application resources enterprise wide. To find out how CA's IAM solutions can improve your business, attend one of our workshops. ca.com/etrust/workshop



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Backstage Pass

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Emerging Technologies Update

In the Technology section: Computerworld's Robert L. Mitchell checks in on PCI Express, 802.11g, Bluetooth and power over Ethernet. They all made a splash in the technology market in the past two years, but how are they doing now that the buzz has died down? **Page 23**



12.20.04

Bridging the Gap

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KNOWLEDGE CENTER SUPPLY CHAIN

RFID Reality Check

EDITOR'S NOTE: This special report offers tips for dealing with RFID reliability problems, illustrates the complexity of the data flows and provides lessons learned about running RFID pilot programs.

SPECIAL REPORT

32 The Trouble with Tags. Users, such as Henkel Consumer Adhesives' Gene Obrock (below), say



RFID reliability pitfalls range from nonfunctioning tags to environmental conditions that render tags unreadable. But some say building an RFID-based supply chain is worth the trouble.



34 The Long and Winding Road. RFID data has a long but clear-cut journey from the manufacturing floor to the retail supply chain. Here's a look at how pioneering Gillette steers its data.

36 RFID Pilot Tips.

Most organizations are just getting their feet wet with RFID technology. Early users such as Buffy Dörpinghaus (right) of the El Paso County government in Colorado offer their advice for managing a pilot project.



38 Opinion: When it comes to RFID, everyone's talking about Wal-Mart. Columnist Mark Hall says that's a mistake.

WWW.COMPUTERWORLD.COM

Editor's Pick. We've compiled Computerworld's best articles about radio frequency identification technology, including pieces that address the issues of return on investment, privacy and security.

☛ [QuickLink 51210](#)

Opinion: RFID data is vulnerable under certain circumstances, says consultant and Computerworld columnist Mark Willoughby, but tougher standards now prevent hackers from using sensitive data in malicious exploits.

☛ [QuickLink 40444](#)

Data Points. Our newest collection of charts offers facts about RFID technology that you can download for your PowerPoint presentations.

☛ [QuickLink a3240](#)

AT DEADLINE

Siebel Buys eDocs To Extend CRM App

Siebel Systems Inc. last week agreed to acquire eDocs Inc. for \$115 million in cash. Siebel said the move will extend its suite of CRM applications. eDocs makes e-billing and customer self-service applications to cut call center and billing costs. The deal is expected to close next year.

HP, Intel Terminate Their Itanium Pact

Hewlett-Packard Co. and Intel Corp. ended a 10-year pact to co-develop the Itanium chip for servers. Intel will continue work on the chips, and microprocessor development by HP will effectively end. HP's Itanium team will join Intel. HP also pledged to continue using the chips in its servers and to spend \$3 billion over three years on Itanium-related product development.

New Standard Could Drive RFID

EPCglobal Inc. last week said its board has ratified the second generation of its Electronic Product Code (EPC) specification. The nonprofit industry group said the standard, supported by dozens of major companies, such as Wal-Mart Stores Inc., The OfficeCo and Albertson's Inc., will drive commercial radio frequency identification and EPC use worldwide.

Two Sentenced In Hacking Case

Two 21-year-old Michigan men were sentenced - one to nine years and one to 26 months in federal prison - for conspiring to hack into the IT systems of national home center chains Lowe's Companies Inc. and stealing customer credit card information. A third defendant will receive sentencing. Officials say the trio compromised a Lowe's store wireless network to gain access to the credit card data.

Sun Adds Linux Support To Sun Ray Thin Clients

Software reduces bandwidth needs for remote users

BY PATRICK THOROUGH

SUN MICROSYSTEMS INC. last week said the server software that supports its Sun Ray thin-client devices can now run on x86-based Linux systems in addition to Sparc/Solaris machines.

Sun Ray Server Software 3.0 also includes new bandwidth adaptation and management technology that's designed to make it easier for IT managers to support remote use of the thin clients. Because of reduced bandwidth needs, the devices can now be linked to back-office systems via Digital Subscriber Line or cable modem connections, said Sun, which also introduced a thin client with a 17-in. screen.

Time Warner Cable is a large Sun Ray user, with about 750 of the terminals. Cesar Beltran, vice president of IT at the Time Warner Inc. division's data center facilities in New York, said he's interested in both of the major new features that Sun is adding to the Sun Ray server software.

Beltran plans to investigate the possibility of switching from the UltraSparc-based Solaris servers that currently support Time Warner Cable's Sun Ray users to x86 hardware running Linux. "We're exploring ways to eliminate some costs," he said.

In addition, using Linux would help employees who provide technical support to customers who access the Internet on Linux-based desktop systems equipped with cable modems, according to Beltran. The workers would be able to enter Linux commands at their terminals to help troubleshoot customer problems.

Telecommuting Niche

Time Warner Cable is also looking at allowing its customer service workers to telecommute in order to increase workforce flexibility and respond to the demands of handling some 40,000 customer calls daily, Beltran said. The telecommuting could start as early as next year, but a final decision hasn't been made.

Beltran said thin clients provide better data security than full PCs do and require little

PRODUCT DETAILS

Sun Ray Server Software 3.0

- Supports all existing Sun Ray devices.
 - Includes expanded security features for controlling access to peripheral devices.
 - Supports the PC/SIC home-work file smart card applications.
- Price: Starts at \$99 per seat.

Sun Ray Ultra-Thin Client 170

- New thin-client device with a 17-in. flat-panel display
 - Provides 56Kb higher resolution and 36% more viewing area than the 150 model.
 - Includes a projector port for use with smart cards in meeting rooms.
- Price: Starts at \$1,040.

support from IT staffers. Indeed, he envisions end users taking the thin-client terminals home with instructions on how to hook them up to DSL or cable modems on their own.

Bob O'Donnell, an analyst at

IDC in Framingham, Mass., said telecommuting via thin clients is a niche that could grow as part of an overall increase in corporate use of the devices. IDC expects shipments of 1.6 million thin clients worldwide this year, a 9.4% increase over last year's level, and it's forecasting a 19% jump in shipments next year.

"We think the awareness level is growing, the cost equation makes more sense, and obviously the [PC] security problem is going to get worse and worse," O'Donnell said. For now, thin clients continue to be deployed primarily in call centers and as part of point-of-sale systems, according to O'Donnell and other analysts.

Tyler Best, CIO at Vanguard Car Rental USA Inc., a Tulsa, Okla.-based company that owns the National and Alamo brands, said Vanguard is installing Windows-based thin clients from Hewlett-Packard Co. in its point-of-sale systems. The thin clients are about 72% less expensive than fully loaded PCs, Best said.

"I think the thin client has a place at the point of sale," Tyler said. "I'm not so sure I would put it in my corporate environment." He added that PCs aren't very expensive and that end users in finance and other corporate departments need more functionality than point-of-sale workers do.

© 2004

Microsoft Buys Tools For Fighting Spyware

BY JAIKUMAR ULJAYAN

Microsoft Corp.'s announcement last week that it has purchased a small vendor of anti-spyware tools serves to highlight the growing seriousness of the spyware problem for users, according to security analysts.

Microsoft said it acquired New York-based Giant Company Software Inc. for an undisclosed amount and plans to use the company's intellectual property and technology

assets to provide Windows users with new tools for protecting their systems against spyware.

A beta version of a spyware protection tool based on Giant Company's technology is due to be released in January for Windows 2000 and subsequent versions of the operating system, said Amy Carroll, director of Microsoft's security business and technology unit. She said the tool will be able to scan for, detect and remove

spyware and other malware.

Microsoft officials haven't decided yet whether the anti-spyware tool will be integrated into future Windows releases or sold as a stand-alone product, Carroll said. "Our immediate job right now is to get the beta out," she added.

The acquisition addresses growing concerns over the security threats that spyware poses to corporate and home users alike, said Jon Oltsik, an analyst at Enterprise Strategy Group Inc. in Milford, Mass. "Spyware has become the new scourge on PC users," Oltsik said.

Vendors such as McAfee Inc., Computer Associates In-

ternational Inc., Webroot Software Inc. and Trend Micro Inc. have begun offering anti-spyware tools designed for corporate users. But, Oltsik said, "Microsoft is jumping into a new market where they have as good a chance as anyone else to make an impact."

Microsoft's purchase of Giant Company is its second significant acquisition in the IT security market. In June 2003, the company bought Romanian antivirus software developer eGad Software SRL for an undisclosed price. Microsoft is expected to make antivirus capabilities available in future versions of Windows as a result of that purchase. © 2004

Users Welcome Consolidation Of Major Wireless Carriers

Hope for pricing, tech benefits from Sprint/Nextel deal

BY MATT HAMBLEN

Last week's merger deal between Sprint Corp. and Nextel Communications Inc. continues a consolidation trend among wireless carriers that could help lower prices and bolster the development of technology for corporate applications, according to several IT managers and analysts.

The planned creation of Sprint Nextel, as the combined company will be called, follows the October acquisition of AT&T Wireless Services Inc. by Cingular Wireless LLC. Sprint and Nextel said they plan to spin off Sprint's local telephone business in order to focus on wire-

less and integrated communications services.

John Boltz, vice president of technology architecture at Wells Fargo Services Co. in Minneapolis, said the IT arm of Wells Fargo & Co. abandoned its initial wireless projects five years ago, "when the technology was premature." But Boltz predicted that Wells Fargo will take a renewed interest in wireless applications because of the two mergers.

"These industry consolidations definitely renew the potential we see in wireless," he said. "This is now the opportunity for people to go ahead and make wireless work right."

Boltz said Wells Fargo's financial services and mortgage divisions could benefit greatly from wireless infrastructures instead of fixed networks,

since their office locations often are moved. He added that he also would like to explore the use of secure data services on phones that combine Wi-Fi wireless and WAN cellular connectivity.

The 100 or so mortgage officers at Hawaii HomeLoans Inc. in Honolulu have been using Sprint's wireless data service for three years, and Hawaii HomeLoans has also relied on Sprint for integration help. Leonard Loventhal, the mortgage company's executive vice president, said that he's optimistic about the planned merger. "Sprint is very advanced in the 3G [wireless] data field, and that is where we're most interested," he said. "We're also hopeful that

the larger company can bring better pricing to the table."

Bob Egan, an analyst at Mobile Competency Inc. in North Providence, R.I., said he thinks the formation of Sprint Nextel will push the two largest wireless carriers, Verizon Communications Inc. and Cingular, to make "preemptive strikes" on pricing. Egan predicted that the cost of wireless data services will soon "collapse" to about \$35 for each gigabyte of data transmitted, down from the current average of \$63 per gigabyte on corporate contracts.

Craig Mathias, an analyst at Farpoint Group in Ashland, Mass., said he doesn't expect the mergers to lower prices in the wireless industry. But neither does he expect an increase in prices, despite the reduced number of competitors. The combined companies will be able to take advantage of greater operating efficiencies because they will need

fewer capital assets — including cell towers — and fewer employees, Mathias said.

Sprint and Nextel expect to complete the acquisition during the second half of 2005. The deal is being billed as a merger of equals, although Sprint is officially buying Nextel in a cash and stock transaction valued at \$35 billion.

The merger will bring together Nextel's iDEN wireless network, Sprint's CDMA network and a new network based on CDMA EV-DO technology that Sprint plans to roll out next year. Sprint and Nextel officials said they plan to migrate some of Nextel's services, including its push-to-talk phone capabilities, to the EV-DO network "over time."

Other migration plans will be unveiled when the merger is finalized, they added.

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ON THE MOVE

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IT Calls for Enterprise Integration-BI Link

Users want access to real-time data

BY HEATHER HAVENSTEIN

Corporate users are increasingly pairing enterprise information integration (EII) technology with business intelligence tools to bolster their efforts to use real-time transaction data to make day-to-day operating decisions.

BI vendors are aligning their products with those of EII vendors to meet user demand to augment historical information in a data warehouse. The EII tools can be used to federate data by providing a single point of access across disparate systems.

For example, Composite Software Inc. in San Mateo, Calif., this week will unveil Version 3.0 of its Composite

Information Server, adding intelligent querying technology for formulating an optimum aggregation plan in real time.

New optimization features are designed to evaluate data shapes and the cost of running complex queries against more data sources in less time, said Jim Green, chairman and CEO. BI vendor Cognos Corp. this month said it will embed Composite's server in its reporting tools. Ottawa-based Cognos also said this month that its reporting tools will interoperate with integration software from Ascential Software Corp.

San Jose-based Business Objects SA and EII vendor Attunity Inc. in Waketfield, Mass., this month signed a joint development and marketing agreement to allow users to update a data warehouse or data mart in real time. Business Objects has similar alliances with MetaMatrix Inc. and IBM.

BI vendors are responding to growing user interest in EII tools, particularly to access a variety of data stores, said Colin White, president of BI Research in Ashland, Ore.

Motrola Inc. recently finalized plans to standardize on technology from Boston-based

Most large companies have a bucket of legacy spaghetti, [and] the promise of BI is diluted because of the difficulty of getting to the spaghetti.

YOUNG REDSHAW, CORPORATE VICE PRESIDENT OF IT STRATEGY MOTOROLA INC.

MetaMatrix to build an EII layer into its enterprise architecture, said Toby Redshaw, corporate vice president of IT strategy at Motorola.

"Most large companies have a bucket of legacy spaghetti, [and] the promise of BI is diluted because of the difficulty of getting to the spaghetti," he said. "Without a tool that lets you quickly interrogate these things, normalize data and express it a layer above the spaghetti, you're doing a lot of heavy lifting."

Beachwood, Ohio-based Penske Logistics LLC uses technology from Attunity and Business Objects to offer its customers more real-time information on delivery or pickup times, said Thomas Nather, a senior systems analyst at Penske.

"It opens up another venue for BI," he said. "To keep inventory low, you have to know where the rolling inventory is." Owens Corning, a Toledo, Ohio-based manufacturer of building materials, uses inte-

gration technology from Ascential combined with Kalido Ltd.'s BI software to generate daily gross margins from multiple ERP systems, said Klaus Mikkelsen, Owens Corning's global development leader.

Before using the joint solution, the company could only access margin information monthly. "Now, we have the ability to generate gross margin information every day, giving us 365 opportunities for course correction," he said.

NSIstar, a Boston-based electric and gas utility, uses Ascential's QualityStage integration software to transform real-time customer location data into reference data for dispatchers analyzing service outages.

That data can also be used in combination with BI tools for later analysis of maintenance work and improvements that are needed in the utility's distribution system, said Marnie Goldberg, NSIstar's director of data resource management. © 91519

BRIEFS

3Com Acquires
TippingPoint

3Com Corp. last week bought TippingPoint Technologies Inc., a developer of technology for preventing attacks on computer networks, for \$430 million in cash. 3Com said it plans to add TippingPoint's UnityOne line of network-based intrusion-prevention system hardware and software to its stable of enterprise security products.

IBM, AMD Develop
Chip Technology

IBM and Advanced Micro Devices Inc. last week unveiled plans to jointly develop a method for implementing strained silicon technology on positive and negative transistors. The new manufacturing technique, dubbed dual-stress liner, is designed to improve the performance of processors starting early next year. The technology will be integrated into AMD's Opteron and Athlon 64 processors and IBM's Power processors by mid-2005.

Microsoft Ships
PC Search Tool

Microsoft Corp. joined the desktop search fray last week with the beta-test version of a suite designed to let users find information stored in PCs. The MSN Toolbar Suite also includes tool bars for searching hard disk drives. The suite can index and retrieve Microsoft Outlook, Word and PowerPoint files as well as Adobe PDF files.

Symantec Invests
in Mazon Networks

Symantec Corp. was among the investors in a \$12 million round of financing raised by Mazon Networks Inc., a maker of network intrusion-prevention technology. The investment comes a week after Symantec bought Platform Logic Inc., another maker of intrusion-detection software.

ON THE MARK

Tool Targets Web
App Coders...

... who are juggling non-Java components in the pure Java world of Eclipse, the popular open-source development framework. The NitroX 2.0 plug-in from M7 Corp., in Cupertino, Calif., lets Eclipse users manage Java code as well as the non-Java components that

are common in Web-based programs, such as HTML code. Carlon Chang, a senior product manager at M7, claims that the upgraded version of NitroX is better for debugging JSP/Servlet Pages (JSP) than Eclipse is by itself. "Eclipse can't work with JSP pages because they're not pure Java," he says. Chang points out that Web applications are much more complex than pure J2EE programs, and he contends that managing dependencies among JSPs, configuration files, HTML code and many more Web-specific elements is a burden for software developers. NitroX 2.0 can scan all of a Web application's code, then map the dependencies of each component and point a developer

to the exact lines of code that create the dependencies. In addition, the tool's WYSIWYG editor supports multiple languages; for example, you can see how localizing Web pages can affect their layout. Chang notes that co-viewing text originally written in English to German can lengthen a page by 20%. The upgraded NitroX software starts at \$299 and is due to ship next week.

Tilttable LCD monitor
flips image...

... when it's turned over.

That's the clever bit of technology in a pair of P- and P-in LCD panels that LG Electronics U.S.A. Inc. will introduce next month at the Consumer Electronics Show

HOT TECHNOLOGY TRENDS, NEW PRODUCT
NEWS AND INDUSTRY GOSSIP BY MARK HALL

in Las Vegas. The displays are attached to a pedestal that allows them to be flipped over to face in the opposite direction. According to Chris Neff, director of marketing at the Englewood Cliffs, N.J.-based division of LG Electronics Inc., a user can open a spreadsheet or a Word document on his PC and then flip the monitor to show the information to someone sitting on the other side of a conference-room table. The image on the screen will automatically right itself so it can be viewed properly, Neff says. However, LG doesn't expect the flipping capability to be the main attraction for users. "It's the razor sharpness of the display that wins folks over," Neff says. LG's proprietary graphics chip automatically adjusts color depth, reducing pixel image-adjustment response time to a speedy 12 milliseconds. Pricing will start at under \$450, which is pricier than CRTs are, to be sure. But, Neff points out, "this is what you stare at all day. It should be the most important technology you get."

On the other hand, John Torrey argues that you need to treat your eyes better than merely giving them a good display. Torrey, CEO of Prio Corp. in Beaverton, Ore., says users should test how their eyes work with specific computer monitors to avoid productivity-draining eyestrain. He wonders why so many companies send in ergonomic experts to adjust employees' workstation areas but seldom test how a person's eyes per-



form while viewing a computer display. That's probably because there are so many eyes to evaluate. The National Institute for Occupational Safety and Health estimates that 100 million pairs of them spend at least four hours a day in front of monitors. That results in some problems. The American Optometric Association says as many as 75% of end users suffer

from computer vision syndrome, which can include classic eyestrain symptoms like blurred distance vision and burning eyes as well as neck and back pain from adjusting your sitting position to

compensate for seeing the screen poorly. Torrey says the biggest problem is that no matter how high a monitor's resolution is, it doesn't deliver the edge detection necessary for the human eye to focus on objects within 10 feet. That means the eye is constantly readjusting itself to see the edge of the text on a computer display, he says. Torrey claims that his company's Prio Visio Test, available at many eye clinics and optometrists' offices, can determine how your vision can be corrected for computer work. You should, um, look into it for your IT staffers.

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Prio Vision Tester

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New Cisco Appliance Consolidates Backup

Can move local backup function to data center

BY LUCAS MERRIAN

Cisco Systems Inc. last week unveiled a file-based data-sharing appliance that can consolidate management of distributed file and print services within branch offices and move the local backup function to a central data center.

The Cisco File Engine appliance uses the company's so-called wide-area file-services technology to create a single global namespace for file and print services over a WAN. The technology also uses caching algorithms to create LAN-like performance for data retrieval.

IT administrators can also use the IU (1.75-in.-high) File

Engine appliance to consolidate all branch-office data backup into central file servers in the main data centers, removing the need for local tape backup devices and administration at each remote location.

Vanessie Hagen Brustlin Inc. (VHB), a 700-person engineering firm in Watertown,

at the company.

Currently, VHB uses Windows 2000 file servers and local folders to document changes to engineering projects. The changes must be kept in order throughout the life of a project, which can last years. Archiving changes after the completion of a project is a time-consuming operation,

said. "The files are 10MB to 15MB or larger, and working with those over a T1 line is not practical," he said.

The File Engine controls access and addresses performance problems normally found with standard file-access protocols, such as Common Internet File System for Unix environments and Microsoft Windows environments and Network File System for Unix environments, over the WAN.

Peter Gerr, a senior research analyst at Enterprise Strategy Group Inc. in Milford, Mass., said remote file and print data management is a huge concern today, because up to 70% of a company's data resides in distributed offices.

"As data protection has become more important because of compliance, corporate governance and security, it's only natural for users to focus on

data protection investments where they're most needed, and they're most needed out on the edge," Gerr said.

Cisco is competing against start-ups such as Tacit Networks Inc., Riverbed Technology Inc., DiskStation Inc. and Expand Networks Inc. in the WAN file-sharing business. In the case of those companies are optimizing network bandwidth, while Cisco and Tacit products reduce the amount of data moving through that pipe by sharing a single copy of a file and thus eliminating duplication.

The File Engines are priced at \$12,000 for up to 50 branch-office users and \$4,500 for additional 50-user license packs. The product is now shipping. **#51494**

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THE CISCO FILE ENGINE comes in an edge or core appliance. It offers file and metadata caching, protocol-specific latency reduction, native and non-CIFS/NFS support and Web-based central management.

Mass., purchased three File Engines and has submitted requests for 15 more in order to streamline file sharing among engineers in more than a dozen East Coast offices, said Greg Bosworth, manager of information technologies

according to Bosworth.

"Try to have people keep documents in sync between offices is just a manual process every right now," he said.

Keeping ownership and access under control has also been a challenge, Bosworth

In Downturn's Aftermath, Cisco Sharpens Its Technology Focus

Executive says vendor has cut costs, become more realistic about strengths

BY MATT HAMBLEN

Mike Volpi is senior vice president and general manager of the routing technology group at Cisco Systems Inc. Following Cisco's annual analyst conference in San Jose this month, Volpi spoke with Computerworld about the changes the company has undergone since the bursting of the dot-com bubble. Excerpts follow.

growth was acquisitions, and some was because of technology developed organically inside of Cisco. IT was just exploding.

And then the bubble burst.

In 2001, things went south for the entire industry. Money disappeared, the bubble burst, people stopped spending, service providers went away. Our record quarter was \$7.2 billion, and that

dropped to \$4 billion-plus. We had layoffs, really tough about \$9,000 an hour.

So what happened next? For a while, we were searching for bottom because there was this feeling of, "How far will we actually fall?" I felt we had

gotten to the bottom by the summer of 2001. Then it became [an issue of] transforming the company, because every aspect of the company had been geared toward growth, and we didn't have any great cost controls. Everything was very decentralized. Along with the layoffs, we did a restructuring where we re-centralized a lot of functions. We decided to cut costs in marketing and engineering, exited several business areas and shut down product lines.

What are some of the technologies Cisco stopped offering? We exited a bunch of wireless areas, also DSL [and] long-haul optical. That was tough because all of those theoretically had promise. Looking back now, it might seem obvious why we exited areas. Why would anybody buy any more optical gear? you might say. But at that time, in 2001, we

had no idea. You had to make these decisions amidst a lot of uncertainty.

There was a question in 2001 of whether we should even stay in the service provider business at all. Today, people will say, "What, are you insane?" But back then, it was a valid question. At the peak, because the downturn, close to 40% of our revenue was from service providers. And it had dropped down to 15%.

And it's about 25% of your revenue now? Yes, we've been clawing our way back to a good position, and we can do more.

Do you think service providers will ever become so effective that they'll be more trusted than internal IT? If you talk about smaller businesses, they don't have an IT guy -- and if they do, it's probably a kid out of college. In those circumstances, service providers do have an opportunity to create value. But big businesses will continue to do IT on their own and simply buy connectivity.

What was the process that brought Cisco back to an overall standpoint? There were a lot of changes in 2001. From there, it was just tighten your belt really hard and wait for the market -- whether the storm and see what's going to happen. That was through 2003, and we made virtually no acquisitions, didn't invest in new stuff really at all.

In 2003, we saw gradual improvements in the U.S. economy, and consumer confidence started going up, and so we started branching out a little more with a few acquisitions here and there, starting new product development, hiring a handful of people.

We have a better realization of what we can and cannot do as a company. Back in 2000, we all felt invincible. Now, we have the attitude that we know how to do certain things well and we don't do these other things well. So let's not do those things. We feel we still have to stay tight with belts because the climate's not great, but we feel like "not great" can continue for a while and we'll be OK. **#51502**

How many companies has Cisco acquired in 2004? About 100, with 75 [of them] between 1996 and 2000. We were growing like gangbusters. When I started [in 1994], Cisco had about 1,600 people, and in 2000, we had 55,000 employees. Our revenues had gone all the way to \$23 billion. Some



7:02 am



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BRIEFS

CSC Sells DymCorp Unit for \$850M

Computer Sciences Corp. last week agreed to sell its DymCorp international services unit to The Veritas Capital Fund LP, a private equity firm, for \$850 million. CSC bought the business two years ago. CSC said it made the deal, which is expected to close next spring, so it can focus on the government IT market.

SAP Offers Remote Security Evaluation

SAP AG is offering its customers a new security service. As part of its Security Optimization Service, SAP performs remote evaluations of customers' systems, searching for vulnerabilities in SAP applications, middleware and Internet gateways, as well as interfaces to partners' systems and user authorizations. Following the evaluation, SAP will suggest fixes.

Time Warner, U.S. Settle AOL Charges

Time Warner Inc. will pay the U.S. government \$210 million to settle charges that its America Online Inc. unit fraudulently inflated revenue figures, court documents showed. Time Warner is also expected to pay about \$300 million to settle civil charges by the U.S. Securities and Exchange Commission related to its buyout of an AOL stake held by Bertelsmann AG, a source said. The charges will be dropped in 24 months if AOL follows the terms of the deal.

Neon Acquires Rival ClientSoft

Neon Systems Inc. last week acquired ClientSoft Inc., a maker of mainframe integration tools, for \$10.5 million in cash and the right to acquire 1,125 million shares of Neon stock. Neon said the move increases its customer base by more than half, to almost 500 sites, and adds depth and mainframe Web services expertise to its services operation.

Longhorn Will Let Users Tune Windows for Different Servers

Microsoft executive sees role-based configuration as key feature of new OS

BY CAROL SALIVA

MICROSOFT CORP. officials last year highlighted three new subsystems as the key pillars for the next major release of Windows—WinFS for data storage, Avail-

on for 3-D graphics and Indigo for building advanced Web services.

The company disclosed in August that WinFS would be part of the next release, which is code-named Longhorn [QuickLink 49244]. But Bob Muglia, senior vice president of Microsoft's Windows Server division, told Computerworld during an interview this month that role-based configuration tools

"were always the most important feature set that I thought was going into" the server version of Longhorn, which is due in 2007. Excerpts from the interview follow.

How do you respond to people who say you've gutted the heart and soul of Longhorn by removing WinFS? For me, the heart and soul of Longhorn is the server was always about how we really refocus on role-based configuration and provide that level of flexibility to our customers. WinFS will be a great feature in the operating system when we deliver it. This is a new thing nobody's ever done before, and when you build technology like that, being certain about the exact date you can deliver it is hard to do. So I feel great about WinFS. [But] I feel great about Longhorn without WinFS.

What will users be able to do in Longhorn that they can't already do in Windows Server 2003 with respect to role-based configuration? Let me give you an exam-

ple. An enterprise can use the role-based configuration tools to build [system] images that have just the roles on it that they want, and then they can deploy those images to the appropriate servers. That's a key feature that our [corporate customers] have been asking for: being able to really build customized images that target a given server.

With role-based configuration, you could build a server that was just a networking server that only had DHCP and DNS on it as well as the core operating system. And you can't do that today.

The other thing we're doing is all sorts of enhancements around the roles in terms of improving task management and managing overall, which is really appropriate to all seg-

ments of the marketplace.

So a customer could configure an application server, a rights management server or an Active Directory federation server? Right.

Will you develop different versions of Longhorn geared toward different roles, or will users just gain the ability to customize the software? This is an enterprise discussion, just to be clear. This is not a medium business and certainly not a small business discussion. But in the enterprise space, customers want the flexibility to buy one version of the operating system and acquire the number of licenses they need for it. And then they want the flexibility to deploy that with just the services on it that they need, and they'll configure those images. And those large customers are very, very comfortable with image-based deployment.

The other trend to note is

the increase of blades. Blades are the fastest-growing segment of the server marketplace, and this level of flexibility around role-based configuration is quite consistent with that trend.

Will you still offer standard and enterprise editions? Yes. We haven't finalized our packaging yet, but we still will have a couple of editions, and you'll be able to do some new roles. For example, you'll be able to build a clustered image on an enterprise license that you can't do with standard [ones].

Beyond WinFS, have any other features been dropped from Longhorn? The truth of the matter is that I'm sure there's lots that I don't know of. There's so much functionality that we'll be coming out with. It's a little early for us to talk about all the specifics that are there or aren't there. We'll figure out some of these specifics over time. **Q51537**

Microsoft Pushes Back Longhorn Server Beta

WINDOWS users who are anxious to get their hands on the first beta release of the Longhorn server will have to wait a bit longer than expected.

Earlier this year, Microsoft projected that the initial beta of the server version of Longhorn would emerge in the first half of next year. But now the company is saying that the beta code is due in the second half of 2005.

"We feel good about that date, and we'll drive forward to that beta process," Bob Muglia, senior vice president of the Windows Server division, said this month. "We clearly have more clarity on Longhorn beta dates [now]."

In the meantime, Microsoft this month made available "releases candidates" versions of

Windows Server 2003 Service Pack 1 and a companion release of SPI targeted specifically at systems based on Intel Corp.'s 64-bit Itanium processors. Commercial shipments of the SPI releases are officially scheduled to start in the first half of next year, but Muglia said he expects the updates to be ready by March.

Also this month, Microsoft put out the first beta of an interim Windows Server 2003 release, code-named R2, that bundles together various feature packs it has made available for the operating system. A second beta of R2 is due in the first half of 2005, and the commercial release is expected in the second half, according to Muglia.

R2 will replace the initial version of Windows Server 2003,

but Muglia said existing Windows Server 2003 users should move to R2 only if they need the new features that it incorporates. "We're not asking people to upgrade," he said.

Muglia said users will still be able to purchase existing products such as the Visual Studio 2005 runtime and SharePoint Services separately from R2. "But in general, our goal moving forward is to incorporate those things into these update releases," he said.

Microsoft also plans to ship R2 editions of Windows Storage Server and Windows Small Business Server in the second half of next year, as well as the Windows Server 2003 Compute Cluster Edition, Muglia said.

—Carol Saliva

Banks Moving to Change Out Core Systems

Web-enabled apps supplant aging Cobol programs

BY LUCAS MEARIAN

After coddling aging core systems for decades, many top-tier banks are planning or implementing change-outs of old Cobol-based platforms with open, Web-enabled applications. The core systems support the most basic bank functions, such as savings and checking accounts and lending systems.

The upgrades are being driven by an improving economy, growing regulatory requirements and recent moves to unbundle packaged applications, allowing for piecemeal, and thus cheaper, replacement of older platforms, said Gartner Inc. in Stamford, Conn.

Updating back-office systems can cut banks' IT operating budgets by 5% to 8% through improved efficiency, said research firm Celest Communications LLC in Boston.

About 23% of all U.S. banks are planning major initiatives related to core banking systems, according to Gartner. U.S. banks lag behind financial institutions in other parts of the world such as Europe, where banks are pressed to move by new European Union rules, Gartner said.

Fifth Third Bancorp., a \$6.4 billion bank with 950 branches and more than 20,000 employees, replaced its mortgage-origination and leasing systems with packaged software from Fiserv Inc. in Brookfield, Wis., over the past two years. Fifth Third used Fiserv's UniFi Pro Mortgage software to replace a green-screen application that was no longer supported because the supplier went out of business.

The success of the new software prompted the Cincinnati-based bank to look closely at replacing more core systems.

Gary Porter, vice president of IT mortgage servicing at Fifth Third, said developers

couldn't keep up with required product-development cycles on the older systems. "Today, we can bring a new product to market in weeks," he said.

"With our old legacy system, it would take months."

Fifth Third officials also cited increasing regulatory oversight of the financial services industry in the form of the Sarbanes-Oxley Act and the USA Patriot Act as a reason for choosing a third-party provider.

New York-based Citibank is in the midst of a project to migrate its core mainframe-based banking application, called Cosmos, to a common

system built with hardware from Hewlett-Packard Co. and running the packaged Flexcube banking application from iFlex Solutions Ltd. in Bangalore, India.

Citibank officials, who couldn't be reached last week, previously told Computerworld that the project was undertaken to replace a decades-old set of back office systems in overseas offices with a single platform and a cross-border set of standard user interfaces and business processes [QuickLink 36921].

The 4-year-old project, estimated by Celent to have cost about \$100 million so far, is

now live in 50 of the 90 countries where Citibank has offices. Citibank is spending about \$35 million per year on the project, Celent said.

Developing Partnerships

Some recent partnerships have led to changes in the traditional one-size-fits-all approach for banking applications that forced large banks to spend hundreds of millions of dollars or more to upgrade back offices over the past six to eight years.

Several major service providers and makers of core banking systems have joined to create bundled software services products for operations such as customer account management, lending

or billing. For example, IBM last month brought out a J2EE version of Flexcube.

That IBM-iFlex partnership caught the interest of Ken Casey, senior vice president of retail banking delivery at ATB Financial, an Edmonton, Alberta-based bank. Casey has started to look at options for replacing a 25-year-old IBM mainframe-based core banking system.

ATB, which manages over \$14 billion in assets, has already taken on a \$17 million rewrite of its teller system, which included replacing Linux terminals with PCs. The Linux-based systems are gradually replacing Cobol systems, said Casey. ATB, a midsize bank, has 4,500 employees. **C 31513**

Continued from page 1

Symantec

antivirus, firewall and intrusion-detection offerings with Veritas's data backup and archiving tools, as well as software for managing servers and application performance.

With the acquisition, "it's time to stop thinking of Symantec as a security vendor and [view it] more as the Wal-Mart of the cyber industry," said Dave Jordan, chief information security officer for the Arlington County government in Virginia. "They're flush with cash, they have top-of-the-line products, and they are at the top of their game."

The company currently uses storage hardware and software from EMC Corp. But Jordan said the addition of Veritas may enable Symantec to bundle storage software with its security tools at a more competitive price than what EMC charges.

However, Symantec's challenge will be to find a way to bring together all of its products under a common management interface and architecture, said Lloyd Hession, chief security officer at Radstone, a New York-based company that provides network services to financial services firms.

"Symantec can't effectively

integrated the portfolio of security products it already has," Hession said. "Adding the Veritas products won't address this problem and arguably will make it worse."

Dong Jin Kim, a senior Unix systems administrator at Eastman Kodak Co. in Rochester, N.Y., uses Veritas's NetBackup software. Kim said that although he thinks Symantec is a good software vendor, he isn't convinced that it knows a lot about storage.

"Whether they can handle Veritas well is what concerns me," Kim said, adding that he would be more comfortable if Veritas was being bought by a storage hardware vendor.

Symantec CEO John Thompson said during a teleconference on Thursday that the Cupertino, Calif.-based company plans to release a product integration road map after the deal is completed in next year's second quarter. "We have an enormous opportunity to leverage each other's technology strengths," he said. "There's no overlap in strategic product lines or R&D."

'Mixed' Merger Record

But Gartner Inc. analyst John Pescatore said Symantec has "a very mixed record" on integrating previous acquisitions into a cohesive product line.

For instance, its purchases

JUST THE FACTS

Symantec is buying Veritas, a storage software company, for \$1.6 billion.

Symantec is a security software company with 10,000 employees.

Veritas is a storage software company with 1,000 employees.

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software that can give IT managers a more holistic view of the operational and security risks that their systems face [QuickLink 50416]. "Symantec is reinventing itself as an enterprise risk management company," Hunt said.

The company needs to grow in other areas because of increased competition in the IT security market, said Peter Lindstrom, an analyst at Pra Security LLC in Malvern, Pa.

For instance, Microsoft is working to integrate antivirus functionality into Windows. And just last week, it announced the acquisition of Giant Computer Software Inc., a vendor of antispam tools (see story, page 6).

In addition, Cisco and other networking vendors are building expanded security functions into their routers and switches, which are expected to further dilute the demand for stand-alone security software.

The merger of Symantec and Veritas is "an acknowledgment that there's just too much ambiguity in the security space to grow a huge company," Lindstrom said. "You need something a little more solid and foundational. Backup software is recession-proof." **C 31524**

Reporter Lucas Mearian contributed to this story.

Banks Moving to Change Out Core Systems

Web-enabled apps supplant aging Cobol platforms

BY LUCAS MEYER

After coddling aging core systems for decades, many top-tier banks are planning or implementing change-outs of old Cobol-based platforms with open, Web-enabled applications. The core systems support the most basic bank functions, such as savings and checking accounts and lending systems.

The upgrades are being driven by an improving economy, growing regulatory requirements and recent moves to unbundle packaged applications, allowing for piecemeal, and thus cheaper, replacement of older platforms, said Garner Inc. in Stamford, Conn. Updating back-office systems can cut banks' IT operating budgets by 5% to 8% through improved efficiency, said research firm Gartner's Gartner LLC in Boston.

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Citibank officials, who couldn't be reached last week, previously told Computerworld that the project was undertaken to replace a decades-old set of back-office systems in overseas offices with a single platform and a cross-border set of standard user interfaces and business processes (Quicklink, 2002).

The 4-year-old project, estimated by Gartner to have cost about \$100 million so far, is

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Then IBM's Flex partner ship caught the interest of Ken Casey, senior vice president of retail banking delivery at Aflac Financial, an Atlanta, Ga. centralized bank. Casey has started to look at options for replacing a 25-year-old IBM mainframe-based core banking system.

Aflac, which maintains over \$14 billion in assets, has already taken on a \$12-million rewrite of its teller system, which included replacing 1,000 terminals with IV's. The last-based systems are gradually replacing Cobol systems, said Casey. Aflac, a mobile bank, has 4,500 employees. **■ S153**

Continued from page 1

Symantec

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For instance, its purchases



of Axent Technologies Inc. in 2000 and RipTech Inc. two years ago haven't panned out, according to Pescatore. "If I was a Symantec customer, I would be looking at those acquisitions," he said.

Steve Hunt, an analyst at Forrester Research Inc., said the move to acquire Mountain View, Calif.-based Veritas is consistent with Symantec's new information integrity strategy, which focuses on

software that can give IT managers a more holistic view of the operational and security risks that their systems face (Quicklink, 5/14/04). "Symantec is positioning itself as an enterprise risk management company," Hunt said.

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Reporter Lucas Meyer contributed to this story.



GLOBAL DISPATCHES

India to Build Center For Bio-IT Industry

BANGALORE, INDIA

It is now successful in IT outsourcing, India is now targeting the market for bioinformatics, which uses technology to discover new drugs and analyze genetic markers. The Indian government plans to set up a \$32 million bio-IT business park that's envisioned as a global hub for companies in the life sciences industry, according to Dayanidhi Maran, the country's minister for communications and information technology.

Some Indian software and services companies, including Bangalore-based Wipro Ltd., have diversified into services that are related to bio-IT, although that business still constitutes only a small percentage of their revenues. India is also home to bio-IT companies such as Strand Genomics Pvt., a vendor of software for use in drug discovery and development work.

The first phase of Bio-IT Park is scheduled to be

An International IT News Digest

completed by 2006, and the second phase will follow by 2009. Possible locations for the 100-acre campus include Bangalore, Hyderabad, Chennai, Delhi, Kolkata and Pune.

■ DEBBI RIBELLO, IDE NEWS SERVICE

IBM Buys Online Procurement Market

IBM last week said it will acquire KeyMRO, a company based outside Paris that operates an e-procurement marketplace. The deal is aimed at boosting IBM's ability to provide outsourced procurement services to customers in Europe and North America. Financial terms weren't disclosed.

KeyMRO, which has a U.S. subsidiary in Florence, Ky., is a joint venture among three industrial companies in France: Schneider Electric SA, Rhodia and Thomson. IBM said it will provide procurement services to the founding companies for seven years after the acquisition is completed.

The purchase of KeyMRO is part of IBM's ex-

pansion into business process outsourcing, said Dominique Ravart, an analyst at Ovum Ltd. in London. KeyMRO buys nonmanufacturing goods such as IT hardware and office supplies, as well as travel, maintenance and professional services.

The procurement operation will be integrated with IBM's Business Consulting Services unit.

New Indian Bank Taps Wipro for All IT

INDRO INDUTTAH, the Wipro unit that provides outsourcing services to companies based in India, last week announced a seven-year contract to handle all IT operations for Yes Bank Ltd., a new private bank in Mumbai. The value of the contract wasn't disclosed.

The outsourcing deal covers all of the bank's hardware, branch-office systems, networks, data center operations and backup procedures with "stringent service-level guarantees" and round-the-clock technical support. Wipro said in a statement.

The contract is based on a pay-per-use model, so IT capacity and expenditures can grow on a predictable path as the bank's business grows, according to Wipro officials.

■ 51480

Compiled by Mitch Betts

Briefly Noted

will launch a parliamentary inquiry next year into the feasibility of electronic voting and electronic voter registration. The Constitutional Affairs Committee in the House of Commons is requesting that public testimony be submitted by Jan. 14.

■ LAURA RONDE, IDE NEWS SERVICE

has begun construction of a research and development campus for 450 software developers in Shanghai. The facility will help the software vendor serve one of its fastest-growing markets. SAP said that more than 800 companies and multinational subsidiaries in China use its products.

■ JOHN BLAU, IDE NEWS SERVICE

and Xerox Corp. last week jointly announced a \$40 million contract to provide managed document services in nearly 200 of Barclays PLC's offices in the U.K. The 66-month contract expands on a \$350 million IT services deal that EDS signed with London-based Barclays in June 2003.

Continued from page 1

NYSE

will ultimately include 1,000 handheld devices custom-designed by IBM and linked over a wireless network to Linux workstations and HP-UX servers and to a mainframe-based back-end system running IBM's WebSphere middleware, DB2 databases and Tivoli management software.

IBM beat out bids by BEA Systems Inc. and Microsoft Corp. for the contract, said Willy Chiu, vice president of IBM's On-Demand Solutions Lab. Terms of the deal weren't disclosed, though Chiu said it was worth many millions of dollars and can be counted among the three most valuable IT contracts ever awarded by the exchange. Analysts estimated its worth at between \$100 million and \$200 million.

The IBM contract represents the first time the NYSE has used a third-party developer to build a trading system. Roger Burkhardt, the NYSE's chief technology officer, said he's "very happy to be out of the business of writing middleware." The IBM work won't result in IT layoffs, he said.

Work on the back-end system has been completed, and 650 of the handheld devices have been distributed so far, Chiu said.

Response to Pressure

The NYSE has been under pressure from all-electronic exchanges such as the Nasdaq Stock Market, which can perform trades faster. With this move, the venerable stock exchange is moving to become a hybrid that allows electronic trading and traditional floor trading to take place side by side.

"Part of the role of technology at New York Stock Exchange is to handle increasing volume with the same number of people," Burkhardt said. He said the NYSE and IBM put the new system through the most exhaustive tests ever undertaken at the exchange for any technology, spending more than a year testing before going live last month.

The NYSE's TradeWorks order management system replaces the Broker Booth Support System, which was based on C++ and built internally to connect floor traders to the brokerage back offices that executed the trades. The old system allowed brokers to send only one message at a time and didn't allow links to more than one system. TradeWorks can send three messages per second to teletraders, broker-dealers and customers.

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consumer-grade products that required hourly battery changes and weren't tightly integrated with the back-office systems. The new handhelds offer more powerful batteries, larger screens and 40 times more throughput than the earlier devices, Chiu said.

Under the new system, floor



NEW WIRELESS handhelds may put an end to shouts of "Buy" and "Sell" on the NYSE trading floor.

traders send data to traders, brokers and clerks using floor-based workstations to relay real-time market data from the exchange floor to trading desks upstairs. Data backup is managed by IBM's Tivoli software. A record of trades and customer information is captured in a DB2 database on an IBM zSeries mainframe on the back end, Chiu said.

Analyst Dave Cearley at Stamford, Conn.-based Meta Group Inc. said the project marks a turning point for Java. "The interesting part is not simply what this provides to the New York Stock Exchange, but what this means for the larger position in the market for Java," he said. "This is not simply a statement of the scalability of IBM's proprietary technologies. It's also about showing the scalability and reliability of Java environments." ■ 51516



GLOBAL

India to Build Center For Bio-IT Industry

BANGALORE, INDIA

ALREADY successful in IT outsourcing, India is now targeting the market for bioinformatics, which uses technology to discover new drugs and analyze genetic markers. The Indian government plans to set up a \$22 million bio-IT business park that's envisioned as a global hub for companies in the life sciences industry, according to Dayanidhi Maran, the country's minister for communications and information technology.

Some Indian software and services companies, including Bangalore-based Wipro Ltd., have diversified into services that are related to bio-IT, although that business will constitute only a small percentage of their revenues. India is also home to bio-IT companies such as Strand Genomics Pvt., a vendor of software for use in drug discovery and development work.

The first phase of Bio-IT Park is scheduled to be

An International IT News Digest

completed by 2006, and the second phase will follow by 2009. Possible locations for the 100-acre campus include Bangalore, Hyderabad, Chennai, Delhi, Kolkata and Pune.

■ JOHN RIBEIRO, IDC NEWS SERVICE

IBM Buys Online Procurement Market

IN last week's said it will acquire KeyMRO, a company based outside of Paris that operates an e-procurement marketplace. The deal is aimed at boosting IBM's ability to provide outsourced procurement services to customers in Europe and North America. Financial terms weren't disclosed.

KeyMRO, which has a U.S. subsidiary in Florence, Ky., is a joint venture among three industrial companies in France: Schneider Electric SA, Rhodia and Thomson. IBM said it will provide procurement services to the founding companies for seven years after the acquisition is completed.

The purchase of KeyMRO is part of IBM's ex-

pansion into business process outsourcing, said Dominique Raviart, an analyst at Ovum Ltd. in London. KeyMRO buys nonmanufacturing goods such as IT hardware and office supplies, as well as travel, maintenance and professional services.

The procurement operation will be integrated with IBM's Business Consulting Services unit.

New Indian Bank Taps Wipro for All IT

WIPRO INFOTECH, the Wipro unit that provides outsourcing services to companies based in India, last week announced a seven-year contract to handle all IT operations for Yes Bank Ltd., a new private bank in Mumbai. The value of the contract wasn't disclosed.

The outsourcing deal covers all of the bank's hardware, branch-office systems, networks, data center operations and backup procedures with "stringent service-level guarantees" and round-the-clock technical support, Wipro said in a statement.

The contract is based on a pay-per-use model, so IT capacity and expenditures can grow on a predictable path as the bank's business grows, according to Wipro officials. **© 51480**

Compiled by Mitch Betts.

Briefly Noted

The U.K. government will launch a parliamentary inquiry next year into the feasibility of electronic voting and electronic voter registration. The Constitutional Affairs Committee in the House of Commons is requesting that public testimony be given by Jan. 14.

■ LAURA RONDE, IDC NEWS SERVICE

SAP AG has begun construction of a research and development campus for 450 software developers in Shanghai. The facility will help the software vendor serve one of its fastest-growing markets. SAP said that more than 800 companies and multinational subsidiaries in China use its products.

■ JOHN BLAU, IDC NEWS SERVICE

Electronic Data Systems Corp. and Xerox Corp. last week jointly announced a \$40 million contract to provide managed document services to nearly 200 of Barclays PLC's offices in the U.K. The 60-month contract expands on a \$350 million IT services deal that EDS signed with London-based Barclays in June 2003.

Continued from page 1

NYSE

will ultimately include 3,000 handheld devices custom-designed by IBM and linked over a wireless network to Linux workstations and HP-UX servers and to a mainframe-based back-end system running IBM's WebSphere middleware, DB2 databases and Tivoli management software.

IBM beat out bids by BEA Systems Inc. and Microsoft Corp. for the contract, said Willy Chiu, vice president of IBM's On-Demand Solutions Lab. Terms of the deal weren't disclosed, though Chiu said it was worth many millions of dollars and can be counted among the three most valuable IT contracts ever awarded by the exchange. Analysts estimated its worth at between \$100 million and \$200 million.

The IBM contract represents the first time the NYSE has used a third-party developer to build a trading system. Roger Burkhardt, the NYSE's chief technology officer, said he's "very happy to be out of the business of writing middleware." The IBM work won't result in IT layoffs, he said.

Work on the back-end system has been completed, and 650 of the handheld devices have been distributed so far, Chiu said.

Response to Pressure

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DON TENNANT

Inconsiderate Considerations

I WAS TALKING the other day with Damien Bean, former vice president of corporate systems at Hilton Hotels, about last week's \$10.3 billion Oracle/PeopleSoft merger. Bean, a poster-child PeopleSoft user while at Hilton,

summed up his thoughts on the deal in the form of an analogy: "It's Sperry buying Burroughs all over again," he said. "You've now got two fundamentally competing approaches to design and architecture and everything else. Size was a goal in and of itself, and the amalgamation of product lines was a secondary consideration."

I love the analogy, because I think it's spot on. Except in this case, I doubt seriously that integrating the product lines ranks as high as No. 2 on the considerations list. In fact, I'd venture that Oracle's top-five list looks something like this:

- No. 1: Boost Larry Ellison's ego.
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- No. 3: Boost Larry Ellison's bank account (and those of his co-execives).
- No. 4: Diminish SAP's dominance in the business applications market.
- No. 5: Further marginalize already marjinal Unix databases. (If you're running PeopleSoft on Sybase or Informix, don't expect your PeopleSoft reps to be quite as chummy as they were before.)

Of course, what's important isn't what it means for Ellison, but what it means for the merged companies' users. The best thing about last week's deal, from a user perspective, is that at least some of the uncertainty is over. We knew when PeopleSoft CEO Craig Conway got the boot in October [QuickLink 49819] that the deal was going to happen — no one could possibly have thought that the grandfatherly Dave Duffield, the company co-founder who took back the CEO title after having held it for the first 12 years of PeopleSoft's his-



Don Tennant is editor in chief of Computerworld. You can contact him at dtennant@computerworld.com.

tory, was equipped to battle Ellison. Yet, there was still no telling when it would happen — the acrimonious merger "discussions" could easily have dragged on interminably. At the same time, there's surely just as much uncertainty now as there was before about whether Oracle will live up to its promises to properly support People-

Soft customers, and about exactly how the two product lines will be positioned and ultimately integrated.

Or whether they'll be integrated, for that matter. As Bean noted during our discussion, the approaches that Oracle and PeopleSoft take to systems design are fundamentally different. While Oracle builds applications very close to its core database technology with stored procedures and triggers, PeopleSoft relies on a lot more code to enable its apps

to run on multiple platforms. Reconciling that in the near term would be awfully tough, so PeopleSoft users will have to hope that Oracle is serious about supporting their apps as a separate product line.

That's why a lot of smart PeopleSoft shops have already upgraded to the most recent version of the application suite. They have the luxury now of sitting back and waiting for the dust to settle, which could take a while because the dust storm will probably be pretty intense. For one thing, it's unlikely that an efficiently functioning joint management team — a prerequisite for any real hope of successfully integrating the companies — is going to be formed anytime soon. Users can expect to see an exodus of PeopleSoft execs who have made no secret of their distaste for working with Conway and who will find that Conway was just a Larry Ellison Mini Me when it comes to obstinacy and egotism.

Unfortunately, users don't appear to have gotten a whole lot of consideration through any of this. And that's a considerable concern if ever there was one. ☐ 51488

Don Tennant



DAVID MOSCHELLA

In-house IT Still Jacks of All Trades

DURING THE 1960s and '70s, vendors such as IBM, Burroughs, Sperry and NCR were largely vertically integrated companies. They built hardware, wrote software, and sold and serviced their own systems. This go-it-alone model enabled the IT industry to prosper and grow into a global giant business.

But during the 1980s, a more specialized approach took hold, with suppliers focusing on particular layers of a newly emerging IT industry value chain — lined in microprocessors, Compaq in PCs, Microsoft in software, Cisco in networking, Seagate in storage. This new, horizontal model came to dominate the IT business, and the old, vertically integrated systems companies largely faded away.

During the 1990s, the horizontal model spread to the telecommunications segment of the IT industry. Most notably, the massive, vertically integrated company that was once AT&T began to break apart, as each piece of the telecom business — equipment and local, long-distance and wireless services — emerged as a distinct entity, and once again a layered value-chain model took hold. Today's AT&T is but a shadow of its once great self, and eventually it could vanish altogether.

In both computers and telecommunications, the resulting horizontal industry structures proved to be both more efficient and more innovative, as intense competition and powerful scale economies generally took hold. It's highly unlikely that the marvels of today's PC, Web and mobile industries would ever have emerged so quickly if the older, vertically integrated structures had stayed in place.

This history remains relevant because there's one big part of the IT industry that still has many characteristics of the vertically integrated era, and



David Moschella is global research director at GIG Research and Advisory Services, a Computer Sciences Corp. company. Contact him at dmoschella@cs.com.

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This history remains relevant because there's one big part of the IT industry that still has many characteristics of the vertically integrated era, and



that, of course, is the corporate IT or organization itself. In-house IT organizations are still largely in the business of building systems, writing software, installing networks and providing the necessary support services.

Indeed, in many ways, customers have inherited the downside of today's horizontal supply-side model. There are now plenty of good products and services to buy, but the burden of integration has fallen mostly to the user. Unfortunately, the combination of legacy code and overwhelming complexity in most IT environments has made the modern IT organization the least-efficient IT industry sector. Many organizations are drowning in necessary but low-value work.

Today, there are few more important IT industry questions than if and when the power of the horizontal model will come to define the customer side of the IT business. Clearly, some movement in this direction is now occurring. ASPs, utility computing, software as a service, contract services, Web services, outsourcing and the use of the public Internet are all examples of how specialized providers can take over work that otherwise would have been done in-house.

But compared with the supply side of our business, the rate of change has been much less dramatic. There haven't been any landscape-altering equivalents to the launch of the IBM PC or the deregulation of the telecom industry. It's hard to imagine what such an equivalent might actually look like.

Recently, there's even been a bit of a backlash, with some companies promoting the virtues of keeping all IT work in-house. That says a lot about the state of today's overly complicated IT industry. But until customers can acquire, use and integrate information technologies as efficiently as suppliers can build them, the user community will continue to bear the bulk of IT industry frustration. There's no bigger IT industry challenge. **© 51412**

PIMM FOX

Microsoft Plays the Ethics Card

LONDON

IM NOT A BIG FAN of people who use pirated software, and I have managed

in the course of my online life never to have shared or downloaded a song or movie.

But does this make me more ethical than the 43% of the British public who admitted that they own counterfeit goods, or the 23% who said they willingly have bought pirated software?

I don't know. It just seems to make me confused, because I find myself on the side of a mega-multinational software vendor in its defense of intellectual property rights, even as I find myself doubting its claims that pirated software means lost revenue for the U.K. government. According to Microsoft, when those Britons buy pirated software, it's not just the company that suffers, no, the British government and all that it supports are hurt, too, because no taxes are paid. This seems reasonable enough, but there's more to it than that, as I'll explain.

Believe it or not, Microsoft is likening its small-scale coffee growers in Third World countries.

What's behind this? A Microsoft-sponsored survey by YouGov that basically proves that people are a bundle of contradictions.

On the one hand, 89% of the sample



group said they perceive themselves to be ethical consumers, defined in the survey as people who try to buy free-trade coffee and non-genetically-modified food. But a lot of people in this group still don't seem to mind using the odd bit of pirated software. Microsoft is trying to make the connection between itself and coffee growers, claiming that there is a

double standard when it comes to soft-ware and free trade.

Ah, contradictions and double standards—two topics that Microsoft happens to be an expert on.

About those taxes, Microsoft makes software in the Republic of Ireland, where taxes on profits are lower than those in the U.K. The U.K. operations are really just a marketing vehicle for Microsoft software.

So would buying genuine Microsoft software boost the tax revenues of the U.K. government? Would paying full price for authentic versions of Windows and Excel help Britain build new hospitals?

Not likely, because most business users get to claim back the 15% value-added tax that is tagged onto each software purchase.

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Sun's Java Stance

SUN HAS POSTED the source code for the next big version of Java, code-named Mustang, on the Internet under the Java Research License [Open-Source Java?]. Quick! Look 50897, it is a free for non-commercial use and provides developers a chance to look before they leap. Sun recognized the need to simplify its myriads of licenses and constraints, which have been confusing. It's just that Sun, as a for-profit organization, is trying to figure out how to make money for its stakeholders, notwithstanding a desire to gain political points.

Relatively speaking, Sun remains the biggest contributor of code to the open-source movement through its work on GNOME, StarOffice and other open-source software and in association with Collaborative and various open-source resources. The company is also retooling elements of its Solaris Unix operating system there, convincing

many of the third-party owners of the 250-odd intellectual property elements to go along. Sun has invested upwards of \$1 billion, 10 years and about 10,000 man-years in the creation of Java. Should it expect any returns on the resulting intellectual property, or should it convert Java into a pure open-source project, giving up all its control? Owners of the 3 billion Sun shares would prefer the former.

Protecting the intellectual property is important for Sun's future. Brand protection through licensing is important for American interests in the international context. Ensuring compatibility control and coordinated development of the Java platform is in the interest of all buyers. The licensing strategy is intended to accomplish all of the above. The instructional books that Sun and others have authored on the Java programming language and platform and the training programs leading to "certified" Java developers all feed a coordinated develop-

ment of the Java infrastructure. Sun's Java licensing policy is intended to effectively foster compatibility, innovation and profitability, all at the same time. Research-use licenses are free and are less restrictive in order to foster rapid innovation. Commercial licenses have fees and more restrictions. By applying an elaborate control system, Sun is attempting and largely succeeded in preventing market fragmentation.

Nisbat Khan
Program manager, Sun Microsystems Inc., Santa Clara, Calif., nisbat.khan@sun.com

An E-voting Future

TECHNICAL professionals and grass-roots political activists are highly skeptical of Pimm Fox's view that Internet voting is in our future ["Next Time, an Internet Election," Quick! Look 50462]. Before the Internet can be an acceptable alternative to citizens leading off to polling locations, significant changes must

As for Microsoft, it ships most of the software that's destined for Europe directly from Ireland. If the company is so dedicated to paying taxes, it could sell its goods from the U.K. That would help the government here.

Microsoft tries to make the point that intellectual property is the same as coffee but strangely doesn't seem to recognize that pushing IT property rights isn't the same thing as trying to ensure that small-scale farmers earn a living wage. "People who pay a little more for free-trade coffee hope that at least part of the premium will end up in the pocket of the grower," says Robin Littau, general manager of Don Pedro Coffee in Houston. Microsoft knows it can't persuade people that they should make sure part of the price of the software they buy ends up in the pocket of Bill Gates, so it sets up the U.S. tax man as the injured party.

As I said, I'm no fan of the movement that believes software, music and video are free for the sharing without in some way compensating the author, musician or artist.

But what I don't like even more is a corporate hypocrite. **© 51427**

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occur. First, the onslaught of self-programming, malicious programming must be neutralized. Otherwise, elections may be manipulated. Second is the question of extending Internet voting to the technologically illiterate, the computerless and the homeless. Unless these issues are dealt with, reliance on the Internet would make the current state of vote fraud look like child's play.

Roy Babich
Scientist, Fortis, N.J.

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Middleware for the on demand world. Learn more at www.ibm.com/middleware

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EMERGING TECHNOLOGIES

Update

PCI Express and 802.11g appear to be speeding toward success in the enterprise, while power over Ethernet is making steady progress in selected situations. But it's been slow going for Bluetooth. By Robert L. Mitchell

PCI EXPRESS was designed to eliminate I/O bottlenecks for everything from video graphics to 10Gbit/sec. Ethernet adapters. 802.11g offered a backward-compatible way for enterprises to upgrade their 802.11b wireless LANs to higher speeds. Power over Ethernet would eliminate the need to use AC power for WLAN access points, IP

phones and other equipment. Bluetooth promised to end cabling clutter on the desktop.

Computerworld has covered the introduction of each of these emerging technologies over the past two years. In that time, some have gained ground; others have fallen short. Here's a report card on where each stands.

PCI Express: Adding Fast Lanes

After more than a year of slow, steady progress, PCI Express, a new I/O technology designed to replace the Peripheral Component Interconnect expansion bus used in PCs and servers, is ready to roll. Intel Corp. released the first PCI Express motherboard and chip sets this past summer, systems began shipping in August, and a few adapters are now available.

Developed through the PCI Special Interest Group, PCI Express (also called PCIe) replaces the PCI bus with a serial architecture that uses up to 16 sets of wires, or "lanes," to support bandwidth ranging from 500MB/sec. to 16GB/sec. For the most part, PCI Express is designed to solve I/O bottlenecks that most users have yet to experience, but IBM, Hewlett-Packard Co. and Dell Inc. have all rolled out servers that include both traditional PCI and two or more "4x" (four-lane) PCI Express slots to stay ahead of user demand.

On commodity servers, PCI Express appears to have won a battle with PCI-X 2.0, a competing 2GB/sec. standard once supported by HP. "Ethernet and storage-controller vendors started flipping from PCI-X 2.0 over to PCI Express, so we're moving with the market," says Colin Lacey, director of market strategy for the ProLiant server line at HP.

But PCI-X 2.0 will arrive on high-end servers next year, both because PCI Express isn't fully mature and PCI-X 2.0 is likely to be available sooner than comparable 8x implementations of PCI Express, says Tom Bradicich, chief technology officer for IBM's xSeries and BladeCenter servers. Eventually, even these systems will migrate to PCI Express, he says.

PCI Express is already replacing the accelerated graphics port for high-end graphics on PCs. For most other I/O needs, however, PCI Express is overkill. On servers, early PCI Express adapters focus on technologies likely to max out current 1GB/sec. PCI-X bus, including 10 Gigabit Ethernet, RAID con-

ILLUSTRATION BY JIM HARRIS



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Worldwide LAN and PoE Switch Ports

LAN	229.75M
PoE	327.84M
	134.36M

NOTE: Ports counted include both 802.3af and proprietary standards. Data considers only unswitched (end-user) PoE, not midspan devices.

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CURT A. MONASH

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storage hardware and software, DBMS, operating systems, application servers, enterprise information integrators and several kinds of management superstructures. And are the choices different for the idealized grid/blade future and the big-central-server present?

One good choice of strategic center is fourfold: DBMS • analytics engine • operating system(s) • network management infrastructure.

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SOURCE: PORTS AUTHORITY INSTITUTE 802.3af and proprietary standards. Also considers only proprietary and open PoE (not megaport ports).

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QuickLink 51291

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RELATIONSHIP MANAGERS ARE CRUCIAL LIAISONS BETWEEN TECHNOLOGY AND BUSINESS, BUT WITHOUT PROPER SUPPORT, THEY CAN END UP BEING DIS-TRUSTED BY BOTH.
BY MARY BRANDEL

SOME JOBS should come with small print attached, just like the drug advertisements you see on TV. Take the job title "relationship manager," whose warning label might read: "Requires great sense of humor and high tolerance for ambiguity. Only true diplomats should apply. Do not attempt unless fully supported by the organizational structure."

The path of the relationship manager is a tricky one, fraught with political potholes and organizational obstacles. Companies create this position — also called account manager, client manager, customer liaison and business information manager — to help close gaps between IT and the business, whether they be gaps in communication, image, credibility, trust or all of the above and more.

Relationship managers are called upon to coordinate IT activities across a given business unit and drive initiatives that position the unit for competitive success, according to Marc Cecere, an analyst

at Forrester Research Inc. in Cambridge, Mass.

Some people hired into this role have spent their careers in IT but also have solid business acumen and deep knowledge of business processes. Others are senior-level, technology-literate business people willing to learn the inner workings of IT.

But when well-meaning companies slap a relationship manager on a rift between two warring parties like a Band-Aid and hope for the best, things can go wrong. "Where there's a deep-seated lack of IT/business alignment and the relationship between the client and IT is strained, trying to bring in a relationship manager to paper over some of these problems is not going to be successful," says Jim Hightower, a fellow at Cutter Consortium in Arlington, Mass., who had a relationship manager role as an IT manager at a small utility.

"If the relationship between IT and the business is already unstable, the relationship manager is just someone who's putting out fires and smoothing out problems," agrees Craig Symons, a Forrester analyst. "That's not going to get you very far."

BRIDGING THE GAP

Indeed, while 40 out of 100 companies surveyed by Forrester in August said they have a relationship manager function, there are many ways to get it wrong, Cecere says (see sidebar below).

Hiring the right person is the first challenge. It's a rare bird who can bobob with techies and business wonks alike and also has the people skills to resolve conflict between the groups, earn credibility throughout the organization and forge a productive alignment that enables IT to meet business objectives.

Take Nam Simon, a relationship manager with the title of business information manager at Novartis Pharmaceuticals Corp. in East Hanover, N.J. She came from IT but had a lot of background in financial systems. "My first love was systems analysis and working with business partners to understand their requirements," she says.

Or look at Andrew Sheppard, director of relationship management at Allegis Group Inc., a contract services provider in Hanover, Md. He has been in IT for 18 years, but he also holds an undergraduate degree in business management and psychology and a master's degree in IT management.

Negotiation Skills

Relationship managers must be crack negotiators. "There can be competing objectives, and you have to defuse emotion to help make a fact-based decision," says Gina Piscopo, who has a relationship manager role as a director in the marketing technology area of Allstate Protection Technology at Allstate Insurance Co. in Northbrook, Ill. For instance, when IT was struggling with a tight deadline for a business project, Piscopo stepped in to ask people on the business side if they could scale back the functionality of what they wanted delivered by that deadline.

That kind of active negotiating can lead to some sticky situations. "You have to have thick skin," says Joan Mann, associate professor of IT at Old Dominion University in Norfolk, Va. "You have to be able to roll with the punches and be very comfortable in the face of uncertainty."

Mediator, translator, persuader, facilitator, expeditor — these are roles Mann says relationship managers need to play. Not to mention the languages they need to speak. "To earn the respect of IS, you have to speak at the router, TI and application code level," says Sheppard. "With the business people, it's important to talk at the profit/loss and deliverables level."

But the relationship manager can't play all these

roles on his own. Most companies find that they need to tweak organizational charts to provide the support they need to straddle the space between IT and the business; otherwise, the relationship manager can easily fall into thin air. "I have not seen the role be successful when it's a stand-alone liaison role," says Mike Roche, vice president of Allstate Protection Technology.

Allstate began hiring relationship managers two years ago. At the time, IT was retrenched from a shared-services organization with an admitted "arm's-length relationship with the business," Roche says, to a group with a CIO and dedicated IT staff for each of the two major arms of the company.

Relationship managers were installed to serve as liaisons between IT and the business functions, but the setup was only somewhat successful, Roche says. The problem, he determined, was that the individuals in these roles had no accountability for delivering on projects. "It's easy to be an order taker and create demand without having any indication of what's reasonable from a delivery standpoint," he explains.

Now, the relationship managers have teams of developers and project managers assigned to them, and — most important — they are responsible for achieving measurable results. "We expect these lead people to be innovative in terms of process improvements," Roche says.

Without that kind of accountability, he says, the relationship manager stands no chance of earning credibility and may even create a layer of redundancy. "If they're pushing through requirements but don't understand the technology that supports it, someone has to rework everything they do," Roche says.

The evolution of the role at Allstate is not unusual. "It's not like you can put in a magical solution on Day 1," says Rob James, CIO at Novartis. "You have to build support processes and fine-tune things as you move forward."

Novartis decided three years ago to move away from its centralized IT organization to one whose initiatives are driven and funded by the business units. Each business function was assigned a rela-

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"The opportunities will continue to be driven by what the business wants us to do."

At Allegis, the relationship manager function has undergone a major transformation. Today, the role is solidly positioned in IT, but it wasn't always that way. Until 2002, Sheppard was one of five "business information officers" the company had embedded within its operating units. Sheppard and the others had no direct reports, and they reported to IT but were seen as extensions of the business.

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With no support staff, Sheppard and his cohorts were also focusing too often on tactical issues, he says. "I wasn't doing the job that adds value to the whole organization, which is looking for the strategies and initiatives for the next year," he says.

Two years ago, during the economic downturn, Allegis dissolved all of its business information officer positions except for Sheppard's. Now, as the only relationship manager left, he supports the IT needs of all the operating companies and reports to the CIO. But he has three groups to support him with service-level agreements, day-to-day deliverables, new-process development and internal public relations. That support "allows me not to get stuck in the weeds," he says. "I can deal with the business side at a higher level."

These days, Sheppard feels he's seen as less of a bad guy, although as a relationship manager, you never really take off the black hat, he says. "When they don't hear what they want to hear, they're still unhappy about that," Sheppard says.

Like other companies with relationship managers, Allegis will continue to evolve the role as business requirements dictate. And having business support is the top priority for making the position work, says Novartis' James. "You have to do this in total partnership with the business." **EW 81088**

Brandel is a Computerworld contributing writer in Grand Rapids, Mich. You can contact her at mary.brandel@comcast.net.

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Cleaning House

HOUSEKEEPING has never been my strongest suit, but I've learned a few things along the way that have helped me stay somewhat organized. For instance, if I buy something new (whether it's a book or a shirt), I try to shed a similar item from my current collection. This helps me avoid clutter and keep the number of things in my house to a somewhat manageable level. Before I implemented this plan, I found myself acquiring too much stuff that I didn't use often enough to justify keeping.

Many IT organizations are in the same position when it comes to their application portfolios.

After years of acquiring software systems and not getting rid of anything, companies have severe application clutter. As a result, given their limited financial resources, they can't meet the current demand for IT unless they "turn off" some applications.

Put another way, they need to take something off their plates in order to make room for the next course.

This makes a lot of sense, actually. The practice of continually adding to the IT burden while holding IT budgets and head counts relatively flat is obviously problematic. Yet that's exactly what many companies have done since the early 2000s. And this practice is one of the reasons why many CIOs feel that they simply don't have enough resources to meet internal demand for IT.

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Clearly, most CIOs could argue that an inventory and housecleaning of the application portfolio may be in order.

Turning off some existing systems sounds like a pretty straightforward solution, but it's not. When CIOs embark on a housecleaning project, they often find that it's fraught with challenges.

The following are some of the key problems that arise:

- Human nature is such that nobody wants to give up any application or service once they've had it. This is especially true for line-of-business managers and their software systems.

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- IT lacks the political clout to make business managers participate in this exercise.

- But there are ways to make this housecleaning less painful:

- Incorporate existing systems into the current application portfolio management framework. Many companies use portfolio management as a way to prioritize new IT initiatives.

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- Provide business leaders with good information to make decisions about the future of applications.

For instance, if you were to ask a marketing director if he could live without a current order-tracking system, he would probably say no. But if you ask that same manager whether it's worth the \$1 million a year that it costs to maintain the system for the 14 business people who use it, that becomes a different story.

In other words, give business people the information they need to weigh the costs and benefits of the decision.

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Ultimately, the solution to this problem is to get the business to assume ownership of the systems they have IT build. Ownership, of course, extends for the entire life cycle of the system, including retirement.

Unfortunately, many companies haven't reached the point where business units truly own the IT software assets. Until they get to this point, IT organizations should be prepared to offer some help with the cleanup of application portfolios. ☐ 91087

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Indeed, while 40 out of 100 companies surveyed by Forrester in August said they have a relationship manager function, there are many ways to get it wrong, Coerre says (see sidebar below).

Hiring the right person is the first challenge. It's a rare bird who can hobnob with techies and business folks alike and also have the people skills to resolve conflict between the groups, earn credibility through out the organization and forge a productive alignment that enables IT to meet business objectives.

Take Nan Simon, a relationship manager with the title of business information manager at Novartis Pharmaceuticals Corp. in East Hanover, N.J. She came from IT but had a lot of background in financial systems. "My first love was systems analysis and working with business partners to understand their requirements," she says.

Or look at Andrew Sheppard, director of relationship management at Allergis Group Inc., a contract services provider in Hanover, Md. He has been in IT for 18 years, but he also holds an undergraduate degree in business management and psychology and a master's degree in IT management.

Negotiation Skills

Relationship managers must be crack negotiators. "There can be competing objectives, and you have to defuse emotion to help make a fact-based decision," says Gina Piscopo, who has a relationship manager role as a director in the marketing technology area of Allstate Protection Technology at Allstate Insurance Co. in Northbrook, Ill. For instance, when IT was struggling with a tight deadline for a business project, Piscopo stepped in to ask people on the business side if they could scale back the functionality of what they wanted delivered by that deadline.

That kind of active negotiating can lead to some sticky situations. "You have to have thick skin," says Jean Mann, associate professor of IT at Old Dominion University in Norfolk, Va. "You have to be able to roll with the punches and be very comfortable in the face of uncertainty."

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The evolution of the role at Allstate is not unusual. "It's not like you can put in a magical solution on Day 1," says Rob James, CIO at Novartis. "You have to build support processes and fine-tune things as you move forward."

Novartis decided three years ago to move away from its centralized IT organization to one whose initiatives are driven and funded by the business units. Each business function was assigned a rela-

Have strong IT backgrounds, especially in current and emerging technologies.

Have strong interpersonal skills, so they can interact with people and act as liaisons between users and IT.

Report to IT, ideally to the CIO.

Live in the business unit, at least temporarily, to develop domain expertise.

Have the active and personal support and mentoring of the CIO.

tionship manager, called a business information manager or BIM. Several centralized IT groups remained to support cross-enterprise needs.

At first, the BIMs worked alone or in small teams, but as demand grew, BIM groups expanded to include dedicated project managers, developers and support staffers. The new structure frees them to focus on strategic issues. "I'm not a hot ringer out there," says Simon, who is a BIM for three groups at Novartis. "If I get a request, I have control over how quickly I can respond because I have resources at my disposal."

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Like other companies with relationship managers, Allergis will continue to evolve the role as business requirements dictate. And having business support is the top priority for making the position work. Says Novartis' James, "You have to have this in total partnership with the business." **EW 1008**

Brandt is a Computerworld contributing writer in Grand Rapids, Mich. You can contact her at brandt@comcast.net.

POLITICAL PITFALLS

Relationship managers can help align IT projects with business goals, but they face many obstacles, says Forrester analyst Mark Coerre. Here are some of them.

Lack of business credibility. Relationship managers who don't really understand business processes may not be included in planning meetings or IT decision-making. The business side may even see them as spies for IT. To avoid this, says senior IT people who have been assigned to business units for several years and embedded them in their business units to enable extensive knowledge transfer.

Lack of IT credibility. Relationship managers must be able

ORGANIZATIONAL OBSTACLES

to speak intelligently on the possibilities and limitations of a broad range of technologies. They should have years of experience in technology as well as an established network within the IT department so IT doesn't see them as an enemy.

Lack of collaboration with other relationship managers. Relationship managers don't work as a team; their knowledge of the business and IT will likely be fragmented. Collective knowledge, which can be shared in meetings, is valuable.

"Help desk" image. While one of their roles is to help with tactical and relationship-building tasks, such as fixing printers, they must focus on the strategic component of their work.

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The Trouble With Tags

Spotty read rates make it clear that the "R" in RFID doesn't stand for reliability. PAGE 32



The Long and Winding Road

See how RFID data makes its way from the manufacturing floor to the retail supply chain at pioneering Gillette. PAGE 34

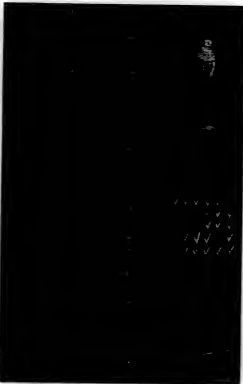


OPINION

Forget Wal-Mart

When it comes to RFID, everyone's talking about Wal-Mart. Columnist Mark Hall says that's a mistake. PAGE 38

RFID will eventually be a winner, but reliability is a vexing issue.



EDITOR'S NOTE

Radio frequency identification technology, or RFID, will eventually help pre-

vent inventory snafus and provide more visibility into the supply chain. But so far, the road to RFID nirvana has been paved with potholes. There has been a shortage of chips plus continuing problems with reliability, systems integration and immature technology. Analysts say that even the mighty Wal-Mart has had to relax its widely publicized January RFID deadline and grant some suppliers deferments to mid-2005 because of "extenuating circumstances."

Right now, RFID is all about extenuating circumstances. Consider the case of Goodyear Tire & Rubber, which is trying to figure out how to use RFID in the tire business. Goodyear executive Jonathan Rich points out that attaching an RFID tag to a box or pallet is relatively easy, but tires aren't shipped that way, so the tag has to be attached directly to

a round, nubby product. "This is complex," Rich says, with some understatement, "because tires are flexible, the material properties can interrupt or distort the radio signal, they are shipped individually, and they are stored in arbitrary positions." And you think you've got problems!

We recognize that RFID isn't as simple as the airline magazines suggest, so this special report provides tips for dealing with RFID reliability problems and illustrates the complexity of the data flows at bellwether user Gillette. As IDC analyst Frank Gens put it, "We remain bullish on the long-term impact and value of RFID... [but] adoption is a more complicated and slower process than boosters often suggest." ■ **12001**

Mitch Betts is Computerworld's executive editor. Contact him at mitch_betts@computerworld.com.

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RFID Reality Check

Spotty read rates make it clear that the 'R' in RFID doesn't stand for reliability. By Mary Brandel

WHEN YOU HEAR the litany of reliability and readability woes that plague radio frequency identification (RFID) pilot projects in the supply chain arena, you may wonder how anyone is making any progress with this technology at all.

Problems range from nonfunctioning tags to environmental conditions, such as temperature, humidity and radio frequency interference, that can render tags unreadable. The challenges continue as containers move through the warehouse and onto trucks — a process in which tags can be damaged or thrown out of alignment so they can't receive reader signals. And the list goes on: Forklifts cut cables, tag printers can't keep up with conveyor belt speeds, or adhesives that bond tags to containers fail at low temperatures.

"There's still a lot of immaturity in the technology," says Kara Romanow, research director at AMR Research Inc. She points to the 10% to 12% of tags that are "dead on arrival" — meaning they arrive at the user site in nonworking condition. Even when you weed out the bum tags, average read rates are still just 80% to 90%, she says. Some of this is the result of tag failure, but other common problems are incompatible tag/reader combinations and products that aren't suited for RFID. "Companies are trying to tag RF-unfriendly products, like soup cans and baby wipes," she says. "It really varies by product."

And yet, if you talk to RFID users like Gene Obrock, vice president of operations at Henkel Consumer Adhesives Inc. in Avon, Ohio, or David Adams, senior vice president of corporate strategy at TrenStar Inc. in Greenwood Village, Colo., you find that they are more optimistic. Yes, they agree, RFID systems are fraught with reliability pitfalls, some of which never go away. But the potential payback is so great, they say, that building an RFID-based supply chain that takes these issues into consideration is worth the trouble — even if the benefits are five to 10 years away.

"The equipment is becoming more durable, the technology more reliable, the tags are improving, and at the same time, we're more knowledgeable about the relationship between the technology and the packages we sell to our retail customers," says Obrock, whose company is testing RFID with Wal-Mart Stores Inc.

Obrock is clear that reliability will play a major role in determining Henkel's eventual return on investment, which will be achieved in part by obtaining more accurate and timely inventory data from retailers. But valuable data can be collected only when the volume of Henkel's RFID-tagged packages increases. "It may take five or six years, but eventually it will grow into the fabric of our organization, like UPC bar codes," Obrock says.

Obrock and other experienced users advise com-



THE Trouble With Tags

panies to learn as much as they can about the relationship between RFID and their own products and processes and then build a system that anticipates and resolves reliability problems that arise.

DOA tags are common enough that experienced users have found ways to work around them. They arrange with tag manufacturers, for instance, to ship extra tags to compensate for those that don't work. Many printers today also include a readability tester that rejects bum tags, minimizing the chances that one will ever be applied to a container.

Of course, that doesn't resolve the issue of tags that test fine but fail later. That's why users that require the highest reliability guarantees must work directly with tag manufacturers on quality assurance — and

pay a premium to certify that the tags will work.

This extra cost is acceptable to Arul Salgaonkar, founder of Cupertino, Calif.-based RFID Solutions LLC, which develops RFID systems for clients in the pharmaceutical and health care industries, where accuracy is paramount. "If I have 10 samples and only eight are read, I don't want to have to do a song and dance in front of my client," he says.

Salgaonkar proposes that manufacturers sell different flavors of tags with prices reflecting variances in reliability. The first step down that path would be for the tag vendors to publicize fail-failure-over-time rates, which they currently don't do. In the meantime, Salgaonkar advises clients to attach not one but two tags to pallets — which is fine for his clients,

whose high-end products warrant the extra cost.

Some observers see tag reliability becoming less of a factor as bigger-name companies such as Texas Instruments Inc. and Hitachi Data Systems Corp. enter the business. "There's a good chance the reliable-tag issue will be resolved by the end of the second quarter next year," predicts Steve Banker, service director of supply chain management at ARC Advisory Group Inc. in Dedham, Mass.

For their part, retailers seem willing to accept some level of inaccuracy. "We're receiving results that say, 'If every week you send me a pallet with 80 cases, and this week I only read 79, I will understand it as 100%,'" Obrock says. Indeed, Banker expresses doubt that the technology will ever reach 100% accuracy at the pallet level, where tightly packed goods and other causes of interference can lead to readability problems. Retailers "will have to make a leap of faith that if they can read 95 out of 100 SKUs on the pallet, that the 20th one is there," he says.

Package Problems

What will continue to suck up lots of R&D dollars, however, is studying the nature of the problem being tagged. "In the dry-poods space, people are getting close to 100% reads, some at a rate of 600 feet per minute," says Eric Peters, CEO of True Demand Software, an RFID start-up in Menlo Park, Calif. But with metal containers and anything containing liquids, read rates are a much lower 60% to 75%, or even 15% on some metal containers, he says.

Companies need to get creative to overcome these problems. When the Department of Defense had trouble tagging 55-gallon metal drums, Peters says, it finally succeeded by placing wriststrapping behind the tags, which minimized interference.

With Henkel's metal tape products, tags have to be placed in a very specific position on the box, or readers will pick up reflections from the tape. Meanwhile, a completely different type of tag works better with the company's shelf-liner products. That's where the cost really comes in: Companies are spending research dollars trying different tags and tag placement with all of their products — and they're documenting the results and making sure workers abide by the explicit instructions. They might end up requiring a variety of tags, with different form factors or different antennas, to accommodate all of the variables in their product lines.

"If you have 10 different SKUs and 10 different tags that you're trying to test, without fail there won't be one tag type suitable for all 10," says Brian Higgins, director of global RFID solutions at BearingPoint Inc. in McLean, Va.

That, of course, increases costs. "You can't get volume discounts if you're spreading out tag procurement purchasing power over 10 different tag types," Higgins says. And in addition to increasing costs, using different tags disrupts and adds complexity to your operations. Custom tags are also more expensive than the 35-cent variety, Romanow points out. "Whatever business case you have really goes negative when you start getting into custom tags," he says.

The challenge is to find the lowest common denominator, or the tag that works best on the widest swath of SKUs. For all these reasons, Higgins says, there's a gap between working through readability

Squishy Returns

ARC Advisory Group recently conducted a survey of 24 manufacturers and distributors engaged in RFID implementations. Here are some findings from the study.

■ **Twenty-three of the respondents said they didn't believe they would achieve ROI within two years.**

■ **Respondents said that, through experimentation, they were able to achieve 100% accurate reads at the individual case level. However, at the pallet level, "experience was all over the map,"** says Steve Banker, service director of supply chain management at ARC. Some respondents with hard-to-read materials were achieving just 50% accuracy, while others with large items and pallets with no interior cases fared better. "Most folks were able to read every case on a pallet only 20% of the time," Banker says. Respondents said they'd need 95% to 99% accuracy at the pallet level to see benefits of RFID such as reduced inventory levels.

■ **Respondents attempting to automate tag application found that printers/encoders couldn't keep up with their conveyor belts. Successful alternatives, such as robotic applicators, were difficult to find.** Hardware suppliers Banker they're two generations away from resolving the speed issue," Banker says.

■ **Automated tag application is also complicated by nonfunctioning tags.** Many printers reject burn tags and generate voided-out ones, but there are two of these in a row, it disrupts automated operations.

■ **None of the respondents said they were willing to make a high-willing tag purchase commitment.** "They're waiting for five 2 standards to be approved, and there's a new raft of hardware providers," Banker says. "The wait is partially in hope that they can negotiate a better price, but it's more about quality and reliability."

— Mary Brandel

But the only way it can do this is by building intelligence into its network to pick up deviations and degradations quickly enough that someone can respond to them.

"Reliability is so much about the quality assurance process you have in place so that when things start to not work, you can pick up on that before it turns into a train wreck," Adams says.

TrenStar's RFID system includes a series of checkpoints that contains the system reads accurately. If a checkpoint is missed, the system alerts someone who can physically investigate whether the problem was a one-time anomaly or something systemic like a cut cable or burned-out battery. "We've put in business logic that says, 'If this occurs, take this action or e-mail this person, and if it happens 100 times, escalate the problem,'" Adams says.

Warehouse to Worker

Following the RFID reliability trail of years eventually leads to the most important point of all: ensuring the integrity of the data collected by this technology. Few companies have progressed to the point of integrating the RFID data into their warehouse and ERP systems, so it's too soon to tell whether the data will be accurate.

But companies like Henkel are preparing for the problems that will arise. "If I ship a pallet with 80 cases, and the number that gets read is 76, and if every pallet is read that way, what do I do with that data?" Obrock says. You can round up to 80, assuming a misread, but what if a large number of pallets were truly four containers short?

The fact is, all the assumptions that you build into your business rules need to be reviewed before using this new data — and they need to continue to be reviewed as the technology improves. "You can't tell your data folks to assume data is off by 10%, and eight months later, it's actually only off by 3%," says Obrock. "You have to go back every so often to validate the difference between the real situation and modify the conventions around how they use that data."

While reliability and readability may not top the list of factors that will affect RFID adoption, they will, in the end, affect how meaningful the resulting data will be. One reason is that a large volume of data is needed in order for it to be useful.

"In a lot of these pilots, people are tagging 5%, 10%, 20% of their overall SKUs," Higgins says. "It's difficult to do any planning when you're only capturing that small of a fraction."

Still, experienced users are enthusiastic about the advances being made in RFID reliability, and they point out that the more users experiment and learn — particularly in these early days when implementers are most likely to be open about their experiences — the better off they'll be.

"Those who started three years ago will stay three years ahead. Others will catch up, but they'll be learning it on their own time," Obrock says. "Once some of the retailers and manufacturers get good at it, I probably won't share all my insights because it will be hard-core knowledge." ☐ 67579

concerns and true deployment.

All in all, users have to walk carefully on the cost/performance balance beam when they engage in all this experimentation. "There are ways to enhance reliability, certainly. But the challenge is keeping it on a cost/performance curve so it's useful," Higgins says.

What Happens Next

So, you've worked through all the experimentation, and you've gotten an RFID pilot up and running. Don't celebrate yet — there's room for more trouble down the road. "Pilots are next, where you get 100% read rates and give each other high-fives," says TrenStar's Adams. "But when you turn on the conveyor belt, and you're reading 1,800 containers an hour, it's a whole different ballgame."

Adams knows what he's talking about — TrenStar, a mobile asset management firm, tracks tens of thousands of RFID-tagged containers. The company is so comfortable with the reliability rate of its RFID system that it builds a key performance metric into customer contracts, promising 98% to 99% read rates.

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ON A ROAD MAP, the data encoded in an RFID tag will endure a long but clear-cut journey, traveling thousands of miles from a manufacturer's warehouse to a retailer's distribution center in a chip no bigger than the head of a pin. But the data's path gets more complicated as it winds its way through the various middleware and back-office applications that will ultimately make it useful in the retail supply chain.

Standards are still being worked out, and the software is still evolving. By the time everything is settled, the ways in which the data travels may change. That's what *Computerworld* learned as it traced the path of RFID data at retailing under The Gillette Co. one of Wal-Mart Stores Inc.'s top suppliers.

The Boston-based manufacturer has one of the most sophisticated global IT architecture designs among the 100 suppliers facing Wal-Mart's January deadline. Leo Burnstein, distributed technology architect at Gillette, is confident that the bumps will be smoothed out. Burnstein sits on the architecture review committee of EPCglobal Inc., the standards body working to resolve some of the prickliest issues.

In the meantime, with so much in development, Gillette has faced a balancing act to establish "a framework that is flexible enough to sustain the long-term project but at the same time

develop some tactical benefits that can be used to support our customers in the short term," Burnstein says.

At Gillette, the data begins its journey in the software systems that assign a unique Electronic Product Code to each case and pallet. The EPC is transcribed onto a chip embedded in a tag that has a flat, razor-thin coil on its underside. When the tag hits the RF field of a reader, it responds with a signal containing its code, and the data is sent to EPC's middleware for processing.

Once Wal-Mart expands its RFID efforts and other retailers follow suit, data will be gushing through those companies' IT systems like a waterfall. But the volume of data is currently more akin to the trickle of a stream.

Thus far, only a handful of retailers have asked their suppliers to ship cases and pallets with RFID tags to selected distribution centers, so technology vendors aren't able to get the critical mass necessary to drive down costs.

Because RFID tags and related systems are expensive and the near-term payoff isn't clear, there's little point in tagging all products at the point they're manufactured. Retailers merely need to know when the cases and pallets are shipped and what's in them. As a result, most suppliers tag goods as late in the process as possible.

Gillette is no exception. The company was one of eight suppliers to participate in a pilot with Wal-Mart. Most of



the cases of razors, shaving cream and toothpaste it ships to Wal-Mart are tagged at its distribution center in Romeoville, Ill. But because Gillette thinks the benefits will be greater the earlier in the process it can tag goods, the company has also launched a pilot to "tag at source" at its packaging facility in Fort Devens, Mass., where it puts EPC tags on cases of Venus razors.

Like a license plate on a car, the EPC uniquely identifies a case or pallet. It uses five key pieces of information: the company code; product code; serial number that uniquely identifies the item; a header that defines different types of tags, such as those in the consumer products industry; and a filter value that allows a company to read only pallet-level tags, ignoring case-level tags or vice versa.

By tagging at the point of packaging, Gillette can reduce the labor costs associated with manually scanning each case and curb errors. Workers currently key five entries onto a keyboard and do three bar code scans for each pallet, according to Jamshed Dubashi, director of Auto-ID technology at Gillette. He says a business process analysis showed that the company will annually save 25% in operational costs once all cases are being tagged at the packaging point

rather than at the distribution center.

But, Dubashi is quick to add, "even though you can get significant benefits from operational savings, it's the collaborative benefits that are the real drivers and motivators for us to work so closely with our retail partners. Our analysis shows that 90% of our benefits and 90% of the retailer's benefits come in the collaboration process."

Moving Through the System

Gillette's EPC data travels thousands of miles on a tiny chip to Wal-Mart's Texas distribution centers in Sanger and DeSoto, as well as to some stores, Burnstein says. If all goes well, its arrival is automatically logged when the tags on the cases and pallets are read at strategic positions in the retailer's distribution centers and stores.

Gillette is already getting access to data from Wal-Mart and is working with the retailer to understand the optimal use of the data, Burnstein says.

A spokesman for Wal-Mart says it provides options for suppliers through its Retail Link extranet site. With Retail Link, suppliers have to "pull" data; a dashboard provides customization options. That system was used during the pilot, and many suppliers will continue using it, the spokesman says. He adds that Wal-Mart has rolled out specifications for an Electronic Data Interchange document that will allow suppliers to receive "all of their read data" on a machine-to-machine basis in that form — daily, if they wish.

Gartner Inc. analyst Jeff Woods says suppliers will be able to see data indicating not only when a product arrives at Wal-Mart's distribution centers and stores, but also when it moves from a store's back room to the sales floor, because readers in trash compactors will note when cases are crushed.

The challenge for suppliers will be getting structured access to the data, because that's the most efficient way for them to get payback from RFID, according to Woods. "Capturing the data from Wal-Mart is not as efficient a process as most people believe. Many suppliers use somewhat manual processes to accomplish this," Woods says, noting that their replenishment planning, forecasting and category management systems will need the data.

But, Woods maintains, even if suppliers can get the RFID data, the majority won't know what to do with it. "Most aren't even ready to use the point-of-sale data that's there today," he says.

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THE
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By Carol Sliva

What's in that case?

SCENARIO: An RFID-tagged case with no label has been found in a retailer's distribution center. Here's how the retailer might find the data associated with that case in the future.



- 1 The case's RFID tag is detected and interpreted by the software in a reader and sent to a computer system.
- 2 Using the tag data, the system sends a query to the object naming service (ONS), which is part of EPCglobal's Electronic Product Code Network and operates much like the Internet Domain Name System does for Web site addresses.
- 3 Based on the manufacturer code and the product code embedded in the tag, the ONS server returns the Internet address of the EPC information service that has additional data about the case and its contents. In this particular scenario, the data about a case of Venus razors had been collected using a network of readers and EPC middleware at Gillette's packaging site (at right), and that data was transferred via an integration layer to Gillette's business applications.
- 4 The retailer's system sends a query requesting additional information using a secure, Internet-based channel that transfers the data and establishes the identity of the retailer's querying system.
- 5 Gillette's information service receives the request through the secure channel, verifies the identity of the retailer's system and creates a response according to the access control rules for that particular retailer. Gillette's EPC information service uses the established secure channel to return this information to the querying system.
- 6 The retailer's system receives the information about the case and its contents and can use the data in its own business systems.



architecture, the starting points were the business requirements and back-office applications. From there, it worked its way back through an integration layer, the EPC-enabled middleware and finally to the readers and the tags containing the data. The idea was to minimize changes to existing business applications, protect the company from shifts in RFID technology and create layers of abstraction, connected by a series of sophisticated interfaces.

Taking a service-oriented approach, each application would be similar to a Lego block, and the interfaces would be the pegs connecting them. Any one of the building blocks could be removed, and another could be plugged in. "You can use the best building blocks that meet your requirements, and if you need to replace one of them, you do not have to change the rest of

the puzzle," says Burstein.

The current edition of Gillette's architecture has a business application layer consisting of its data warehouse, a warehouse management system from Prowia Software Inc. and other applications that will process the data.

Integration and Middleware

An integration layer sits between the enterprise application layer and its EPC-enabled middleware from OutSystems Inc. The integration layer, based on technology from Sun Microsystems Inc., handles the routing of data between the middleware and enterprise systems, guarantees message delivery and performs any needed protocol or data-format transformations.

The OutSystems middleware collects the EPC data from the readers, each of which has read a tag potential-

ly hundreds of times per second, and filters the data into separate messages that have a distinguishable meaning from the business process perspective.

Gillette is also testing an appliance concept that will combine the reader, some functions of the middleware and the physical infrastructure to simplify its systems, Burstein says.

At the same time, Gillette is working hard through EPCglobal to standardize interfaces, the most important being those between the middleware and enterprise applications, Burstein says. The only needed interface close to being finalized is the one between tags and readers, he adds. "It's easier said than done," Burstein acknowledges.

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But Woods says one of the greatest hurdles to overcome is how to determine the context of the data that's being collected. For instance, a reader at a shipping dock door needs to discern which tagged pallets are heading onto trucks and which are merely passing by on their way to storage, he says.

Scores of suppliers will merely slap tags onto the cases and pallets they ship to Wal-Mart and not worry about adapting their systems and business processes to take advantage of the data, at least in the near term. Even Gillette, which has what Woods terms a "sophisticated, very sleek architecture," still has a long way to go in figuring out meaningful uses for the data.

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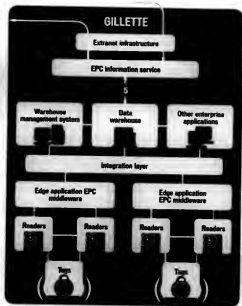
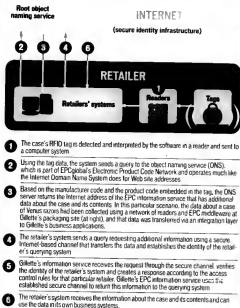
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Just getting
your feet wet
with RFID?
These early
users offer
advice for
managing a
pilot project.
By Marc L.
Songini



RFID PILOT TIPS

EARLY ADOPTERS say the trick to navigating the relatively untested waters of radio frequency identification is to assemble a savvy team that can set the project scope, win over business users and make up for the technology's limitations.

Take, for example, the El Paso County government office in Colorado Springs. A six-week RFID pilot project launched this fall to track IT assets involved tagging 265 PCs, 10 printers and 10 tablet PCs. The first step in the project, which would eventually pour retrieved RFID data into PeopleSoft Inc.'s Asset Manager, was to create a business case.

Buffy Dorpinghaus, manager of the Colorado county's PeopleSoft group, met with CIO Bill Miller and desktop and network managers. To sell them

to give them a shot. Just try it, and if it's not working, then great, no harm done." She says.

hardware would work the way El Paso County needed them to.

Next, the nine-person project team was put together. Dorpinghaus was chosen to lead the team because of her PeopleSoft applications expertise and ability to map the technology to business processes. Also on board was a non-IT manager, who handled project administration, meeting planning and status reporting, and three IT staffers who would eventually use the system, including one person assigned to transfer the scripts used with the bar codes so they would work with the RFID technology as well.

Jimie Hinton, a consultant at Accenture Ltd., says this upfront work of building the RFID team with the right skills and creating a solid business case is key. "Make sure the pilot is focused on a common set of objectives and imperatives," he advises. By managing the scope, companies can more easily manage the infrastructure and technology. Hinton says.

For its RFID pilot, Madison, Wis.-based bicycle manufacturer Pacific Cycle Inc. created a four-person team: two IT workers with RFID technical skills and two business users who would be using the system once it was up and running, says CIO Ed Matthews. The pilot involved tagging 3,500 bikes and the packaging material inside and outside the boxes they're shipped in.

Since the pilot went live in September, the manufacturer has shipped 15,000 tagged bikes to Wal-Mart Stores Inc. But because RFID technology has been changing so fast, Matthews says that in retrospect, he would have waited another year. "In terms of technology, the immaturity has and continues to be a nuisance," he says. "We tried several tags and antenna designs but didn't get the results we wanted. I can't tell you the number of times that we were told a product is just a couple of weeks or a month away only to find out that it is still coming."

Winning Over Stakeholders

Another critical part of managing an RFID project is gaining business users' trust. The El Paso team held regular meetings with end users in the help desk and networking departments as well as those in the purchasing and supply group to create a clear, standardized process. The team used Microsoft Corp.'s Visio software to map the workflows.

Creating a structured workflow plan is time well spent, says Hinton. "The results will be more significant, and the expectations for the pilot will be

agreed upon from the start," he says.

Dorpinghaus says the idea was to fully train the workers who would be using the RFID system and ensure that they would benefit from it. Because the end users in this case were IT workers and savvy about the technology, they proved especially demanding, requesting special interfaces to access relevant data, she says.

But the RFID team learned early on that that kind of continued user feedback can only improve the system. "Keep encouraging them to be open," advises Dorpinghaus. Most problems can be easily resolved, and quick fixes can nip any growing dissatisfaction with the system, she says.

"Make sure you have good resource commitments from the pilot participants," adds Hinton. "Each participant must be able to dedicate enough time to plan and execute well."

In addition, "working together face-to-face is important for the success of these pilots," he says.

Learning Along the Way

Even though RFID technology has been around for some time, launching a successful pilot requires trial and error, says Sean Clark, director of RF at DC Logistics, a Dallas-based third-party logistics services provider. His company is launching an RFID pilot project in January for one of its customers, with other tests planned for clients that need to satisfy the requirements of the U.S. Department of Defense and retailers like Wal-Mart.

For example, DC Logistics learned to place a plastic tag under the RFID tag if the container is made of metal so that the signal is read accurately.

"[RFID technology] will be a no-brainer in a couple of years. But for now, they don't call it the bleeding edge for nothing."

ED MATTHEWS, DO PACIFIC CYCLE

At Pacific Cycle, several dry runs uncovered the best places on the bicycles to place the tags and whether the tags could be successfully stored and retrieved, says Matthews.

An important skill for RFID team members is the ability to improvise, he says. "If you looked at our warehouse and the antenna setup around the portal, you would think it was a mad scientist gone bad," says Matthews. "To get better read rates and to protect the antennas from being hit from a forklift, we have tried everything except attaching an old TV tray."

In fact, Matthews says bicycle welders were called on by the project team to manufacture mounts to attach RFID equipment to dock doors.

"I do believe that all of this will be a no-brainer in a couple of years," says Matthews. "But for now, they don't call it the bleeding edge for nothing."

That ability to roll with the punches is an important attribute in team leaders as well as team members. "Of course there were mistakes," acknowledges El Paso's Dorpinghaus. For instance, she says she forgot to change the license for the RFID system from development to production when the pilot went live, a problem that was quickly resolved.

She also soon discovered that there aren't a wide variety of readers or tags to choose from. Dorpinghaus had hoped to get more "active" tags — tags with ranges exceeding 8 feet — but eventually had to settle on passive tags with shorter ranges. "Be patient, be positive," advises Dorpinghaus.

"Just because it doesn't work the first time, try again," adds Clark. Some tweaking might get the system up and running in the pilot. "You need to tinker at this stage," he says. **CS 50876**

FOR WITH RFID

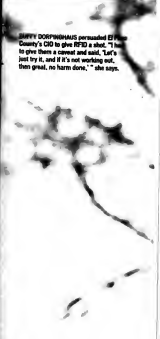
Don't look at your RFID project as a death march, despite the technology's problems. Make it an adventure, says columnist Frank Hayes

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on the project, Dorpinghaus explained that the new system would use existing bar-code scripts to cut the time needed to track PCs from 10 minutes to one minute without adding hardware or software or requiring a staff member to visit each desktop.

"I had to give them a caveat and said, 'Let's just try it, and if it's not working out, then great, no harm done,'" she says. The pilot would also be cheap, at under \$100,000, Dorpinghaus says. That one-time pilot expense, which also paid for the production license, was a big plus. Had the project been bigger, she says, there probably would have been resistance.

Miller says that although RFID is a relatively new technology for government agencies, the pilot was seen as an opportunity to streamline processes and verify that new software and



SHUFFY DORPINGHAUS persuaded El Paso County's CIO to give RFID a shot. "I had to give them a caveat and said, 'Let's just try it, and if it's not working out, then great, no harm done,'" he says.

hardware would work the way El Paso County needed them to.

Next, the nine-person project team was put together. Dorpinghaus was chosen to head the team because of her PeopleSoft applications expertise and ability to map the technology to business processes. Also on board was a non-IT manager, who handled project administration, meeting planning and status reporting, and three IT staffers who would eventually use the system, including one person assigned to transfer the scripts used with the bar codes so they would work with the RFID technology as well.

Janie Hinton, a consultant at Accenture Ltd., says this upfront work of building the RFID team with the right skills and creating a solid business case is key. "Make sure the pilot is focused on a common set of objectives and imperatives," he advises. By managing the scope, companies can more easily manage the infrastructure and technology, Hinton says.

For its RFID pilot, Madison, Wis.-based bicycle manufacturer Pacific Cycle Inc. created a four-person team: two IT workers with RFID technical skills and two business users who would be using the system once it was up and running, says CIO Ed Matthews. The pilot involved tagging 3,500 bikes and the packaging material inside the boxes they're shipped in.

Since the pilot went live in September, the manufacturer has shipped 15,000 tagged bikes to Wal-Mart Stores Inc. But because RFID technology has been changing so fast, Matthews says that in retrospect, he would have waited another year. "In terms of technology, the immaturity has and continues to be a nuisance," he says. "We tried several tags and antenna designs but didn't get the results we wanted. I can't tell you the number of times that we were told a product is just a couple of weeks or a month away only to find out that it is still coming."

Winning Over Stakeholders

Another critical part of managing an RFID project is gaining business users' trust. The El Paso team held regular meetings with end users in the help desk and networking departments as well as those in the purchasing and supply group to create a clear, standardized process. The team used Microsoft Corp.'s Visio software to map the workflows.

Creating a structured workflow plan is time well spent, says Hinton. "The results will be more significant, and the expectations for the pilot will be

agreed upon from the start," he says.

Dorpinghaus says the idea was to fully train the workers who would be using the RFID system and ensure that they would benefit from it. Because the end users in this case were IT workers and savvy about the technology, they proved especially demanding, requesting special interfaces to access relevant data, she says.

But the RFID team learned early on that that kind of continued user feedback can only improve the system. "Keep encouraging them to be open," advises Dorpinghaus. Most problems can be easily resolved, and quick fixes can nip any growing dissatisfaction with the system, she says.

"Make sure you have good resource commitments from the pilot participants," adds Hinton. "Each participant must be able to dedicate enough time to plan and execute well."

In addition, "working together face-to-face is important for the success of these pilots," he says.

Learning Along the Way

Even though RFID technology has been around for some time, launching a successful pilot requires trial and error, says Sean Clark, director of RFID at DC Logistics, a Dallas-based third-party logistics services provider. His company is launching an RFID pilot project in January for one of its customers, with other tests planned for clients that need to satisfy the requirements of the U.S. Department of Defense and retailers like Wal-Mart.

For example, DC Logistics learned to place a plastic tag under the RFID tag if the container is made of metal so that the signal is read accurately.

GOLDEN RULES

MANAGE PROJECTS 1. **START SMALL**—Don't try to do too much at once. 2. **GET BUYER'S SUPPORT**—Make sure you have the support of the people who will be using the system. 3. **TEST, TEST, TEST**—Make sure the system works before you launch it.

IT'S ALL A WORK PLAN 4. **GET IT DONE**—Make sure you have a clear plan of what you want to achieve and when you want to achieve it. 5. **KEEP IT SIMPLE**—Don't make the system too complicated.

KEEP TRACK OF EVERYTHING 6. **KEEP IT SIMPLE**—Don't make the system too complicated. 7. **KEEP IT SIMPLE**—Don't make the system too complicated.

KEEP IT SIMPLE 8. **KEEP IT SIMPLE**—Don't make the system too complicated. 9. **KEEP IT SIMPLE**—Don't make the system too complicated.

RFID technology will be a no-brainer in a couple of years. But for now, they don't call it the bleeding edge for nothing.

ED MATTHEWS, CIO, PACIFIC CYCLE

At Pacific Cycle, several dry runs uncovered the best places on the bicycles to place the tags, and whether the tags could be successfully stored and retrieved, says Matthews.

An important skill for RFID team members is the ability to improvise, he says. "If you looked at our warehouse and the antenna setup around the periscope, you would think it was a mad scientist's game plan," says Matthews. "To get better read rates and to protect the antennas from being hit from a forklift, we have tried everything except attaching an old TV tray."

In fact, Matthews says bicycle welders were called upon by the project team to manufacture mounts to attach RFID equipment to steel doors.

"I do believe that all of this will be a no-brainer in a couple of years," says Matthews. "But for now, they don't call it the bleeding edge for nothing."

That ability to roll with the punches is an important attribute in team leaders as well as team members. "Of course there were mistakes," acknowledges El Paso's Dorpinghaus. For instance, she says the fog that changed the license for the RFID system from development to production when the pilot went live, a problem that was quickly resolved.

She also soon discovered that there aren't a wide variety of readers or tags to choose from. The county had hoped to get more "active" tags—tags with ranges exceeding 8 feet—but eventually had to settle on passive tags with shorter ranges. "Be patient, be positive," advises Dorpinghaus.

"Just because it doesn't work the first time, try again," adds Clark. Some tweaking might get the system up and running in the pilot. "You need to tinker at this stage," he says. **CS0976**

FUN WITH RFID

Don't look at your RFID project as a death march despoiling the technology's promise. Make it an adventure, says columnist Frank Haas.

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SNAPSHOTS

RFID Benefits

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Interference from other tags

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Base Survey of 320 senior IT executives, directors and managers. Multiple responses allowed.

Source: Gartner Research and Advisory, Inc. Survey dates: February-April 2004

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"It's all about ROI," Ezequiel says. "No one's going to invest in it without money coming out the other end." ☐ 0257



Advertising Supplement

IT Careers: CIOs Identify Trends for 2005

Normally workforce experts look to the CIOs of the largest IT firms to forecast what the future will bring. However, the trends facing non-IT CIOs — who represent better than 70 % of the jobs, according to ITAA's annual workforce study — are the ones that will affect the vast majority of IT professionals. And their list of trends to watch in 2005 is short.

First, industry sectors will continue to shift focus on information technology as core business competencies. Steve Agnoli, CIO for Kirkpatrick, Loftis LLP law firm in Pittsburgh, says, "IT competence is key in our ability to provide client service. The large firms and corporations we represent expect us to be able to hang with them from a technical standpoint."

That situation faces all business sectors, according to Ray Barnard, CIO for the world's largest engineering construction firm, Fluor Corp. "We're projects-based with projects in 48 different countries. Each project has an IT element to it." For the World Wildlife Foundation, based in Washington DC, the need is the same. WWF's CIO, Greg Smith, says, advancing and evolving use of technologies is required to maintain the non-profit's mission and goals.

Second, the cost of IT services will continue to be the name of the game for all industry sectors. The result, according to all three CIOs, will be continued levels of outsourcing for

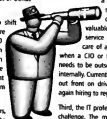
commodity functions. Barnard, who recently outsourced better than 35 % of his IT operation, says the challenge is to identify accurately what IT capabilities are core to the business or organization and to the smooth transition of employees to outsourced service providers. "I think we'll see a shift of some jobs to service providers,"

says Barnard, pointing to increased opportunity for IT professionals with the valuable commodity skills. "Right now, the service providers have multiple clients to take care of and need people." The risk, of course, is when a CIO or IT team doesn't correctly identify what needs to be outsourced and what needs to be preserved internally. Currently the financial services sector, which was out front on driving down cost through outsourcing, is again having to regain its core technical capabilities.

Third, the IT profession continues to offer opportunity and challenge. The most critical skills IT pros need include strong customer service understanding, communication skills and management of outsourced capabilities. For Fluor Corp., the need is for staff members who, understanding the business of engineering, can develop and upgrade infrastructure architecture, programming in support of CAD, three-dimensional CAD and CATIA; programming in support of the ERP systems, particularly financial; and development of security protocols and programming. Mobility is another critical factor in Barnard's world, where systems must be developed and put in place on a worldwide basis. For Agnoli in a legal setting, customer

focus "must be at an unbelievable level", and he looks for those who can communicate about and apply technology to the benefit of the firm. And for Greg Smith at WWF, the critical skills for non-profit IT professionals are top-profit thinking and practices to achieve extraordinary results. He lists analytics and business intelligence specialization as critical.

"The market is blurred," adds Smith, in terms of where the greatest opportunities exist — government, for-profit or non-profit. "I'd challenge them [IT professionals] to look for sound opportunities for organizations that have a great brand and name recognition."



The Job Market

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For more information about IT Careers advertising, please call: 800.762.2977

Produced by Carole R. Hedden

Chief Information Engineer
(Memphis, Tennessee): Design, implement, maintain, document and develop user interface software applications in computer-aided design (CAD) and other software applications. Must have 10 years of experience in the field of computer-aided design (CAD) and other software applications. Must have a Bachelor's Degree in Computer Science or related field and 1 year of experience in the field of computer-aided design (CAD) and other software applications. Must have a valid driver's license and a clean driving record. Must be able to travel and work in a fast-paced environment. Salary: \$75,000 - \$85,000.

Must have a Master Degree or
Bachelor Degree in Computer Science or related field and 1 year of experience in the field of computer-aided design (CAD) and other software applications. Must have a valid driver's license and a clean driving record. Must be able to travel and work in a fast-paced environment. Salary: \$75,000 - \$85,000.

Cambridge, MA-based communications technology is seeking professionals for the following positions:
Dr. Sigmund (Speech Recognition Project): Develops advanced speech recognition systems to operate on conversational telephone systems and is responsible for the design, development, testing, and deployment of speech recognition systems. Must have 10 years of experience in the field of speech recognition systems. Must have a PhD in Computer Science or related field and 1 year of experience in the field of speech recognition systems. Must have a valid driver's license and a clean driving record. Must be able to travel and work in a fast-paced environment. Salary: \$100,000 - \$120,000.

System Design Engineer - Data: Performs analysis and collection of data from various sources and systems using C++ and MATLAB/Simulink. Must have 10 years of experience in the field of system design engineering. Must have a Bachelor's Degree in Computer Science or related field and 1 year of experience in the field of system design engineering. Must have a valid driver's license and a clean driving record. Must be able to travel and work in a fast-paced environment. Salary: \$75,000 - \$85,000.

Software Engineer - Data: Works on the design, development, testing, and deployment of software systems. Must have 10 years of experience in the field of software engineering. Must have a Bachelor's Degree in Computer Science or related field and 1 year of experience in the field of software engineering. Must have a valid driver's license and a clean driving record. Must be able to travel and work in a fast-paced environment. Salary: \$75,000 - \$85,000.

Staff Engineer - Data: Performs analysis and collection of data from various sources and systems using C++ and MATLAB/Simulink. Must have 10 years of experience in the field of staff engineering. Must have a Master's Degree in Computer Science or related field and 1 year of experience in the field of staff engineering. Must have a valid driver's license and a clean driving record. Must be able to travel and work in a fast-paced environment. Salary: \$100,000 - \$120,000.

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Multiple responses allowed

SOURCE: FORRESTER RESEARCH
ANALYST: LISA M. HARRIS, JAMES J. HARRIS

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FRANK HAYES • FRANKLY SPEAKING

Where to Start

READY FOR 2005? It's shaping up as a year for innovation — and uncomfortable decisions. Things are changing. IBM is dropping out of the PC business. Oracle is swallowing PeopleSoft. Outsourcing, offshore and otherwise, looms large as an option — or maybe a requirement. Sarbanes-Oxley and HIPAA, grids and Linux, wireless and RFID all require corporate IT to bite the bullet, make choices and then move forward to do new things.

We've put these decisions off for years. We can't any longer. But

how to make those choices? Start with the filter IBM used in deciding to sell its PC line: innovations vs. commodities.

PCs are commodities. That means it's hard to differentiate products, so competition is fierce and return on investment is low. True, IBM ThinkPad laptops have a reputation for innovation in design. But IBM decided that innovation couldn't add enough to a ThinkPad's price to make the business worth keeping.

So how does an IBM competitor like Dell stay afloat? By pouring the innovation into its manufacturing and marketing processes, not just into its products. That's why Dell will still be in the PC business in 2005 and IBM won't.

The day after IBM said it will sell its PC business to Chinese vendor Lenovo, PalmSource — which makes the operating system for Palm handhelds — announced it's buying China MobileSoft, which makes a version of Linux for cell phones. PalmSource also said it will turn Palm OS into a layer on top of Linux. That makes sense. Operating systems are now commodities. PalmSource doesn't want to invest in a low-return commodity business.

But PalmSource does want to keep control of that high-value Palm OS layer. That's where the innovation is. And innovation is where the money is in 2005.

The fact that operating systems are commodities also explains why Microsoft keeps trying to climb up to innovation-oriented layers like business intelligence and Internet search. Monopoly Microsoft may thumb its nose at antitrust regulators, but it can't finess the relentless pressure of commoditization.

Why has Oracle gone after PeopleSoft? Because relational databases — still Oracle's core business — are commodities too. Sure, there's some innovation, but mostly

a database is a database. Lots of PeopleSoft customers use databases from IBM, Microsoft and other vendors. Oracle wants those customers. And buying the enterprise application out from those customers looks to Oracle like a good way to capture them.

Oracle may also genuinely want to leverage the innovation that's in PeopleSoft's applications. Only time will tell whether that's true.

What do we learn from all this? The same things that drive the vendors will drive our decisions in 2005.

What should we outsource? The low-return commodity work, obviously. Unless, like Dell, we can find innovative ways to do that work to create a competitive advantage. If we get a higher return from doing it in-house, then we should keep it in-house.

How do we handle regulatory requirements like Sarbanes-Oxley and HIPAA? The first step is meeting the deadlines. But after that, what? If cranking out that data is a commodity process, we should find the cheapest way to deal with it. But if we can provide insight to business-siders for boosting the top or bottom lines, we should invest more in that kind of data collection.

On-demand IT provisioning makes sense if computing and storage are commodities to us — but not if we can find innovative ways to leverage those elements for business advantage. Going with Linux might make sense, but not if there are special, innovative ways that we're using Windows or Unix. Wireless and RFID may be commodities or innovation points, depending on what we need and how we use them.

Yes, 2005 will be a year for innovation. But deciding what's ripe for innovation and what's a commodity — that's the decision we'll have to tackle first. ☐ 01404



FRANK HAYES, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at frank.hayes@computerworld.com.

Conflict Management

"Process control and IT do not always get along," says a process-control plant fish at a highly automated chemical plant. "If the computer goes down, the facility may or may not have an operator in control." So fish is stunned when he walks into the control room to find a tech from IT upgrading the main computer. "We are in the entire plant know he was coming," fish hines. "We were lucky only one pump was running." Next day, plant personnel get a new directive: "If any IT people come in without checking in at the plant manager's office, they are to be rendered unconscious and removed from the control room."

What For?

At this date over in the late 1970s, it's the third-shift operator's job to back up the master file every night.

So when there's a mid-day hardware failure and the day operators can't find last night's backup tapes, they go looking for last night's operator.

"When called at home, he explained that he had checked the tape-out logs and found that no one had used the backup tapes in over a year," reports a plant fish on the scene. "So he thought the job was a waste of his time — and he had not run the backup jobs for several months."

reputable in the control room by fax or voice over the very same "business" phone lines."

Um... Right. That fish has to OK system changes with the help desk — which doesn't always get it. So when fish calls for big-guns on the database to be changed, communication breaks: "Your status that critical on three takes need to be modified."

Square One. Their info support plant fish also needs a CD. A blank CD or a pre-recorded one for testing? Fish asks. Blank, our reps. CD-R or CD-RW? asks fish, who then has to explain the differences.

"After she decided she needed a CD-R, I got one out of the supply cabinet for her," fish says. "She stopped me and said, 'That's not the kind of CD I need. I need a square CD.' I handed her a diskette, and she went away happy."

Security. This database agency wants to leave laptops to users so they can dial in for orders via e-mail.

And the security group is worried about using unsecured phone lines. So when users get the laptops, it takes four separate passwords to log on — and the messages can't be printed out.

"Users add their own level of security — they don't connect the laptops

SHARK TANK

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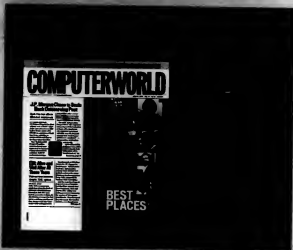
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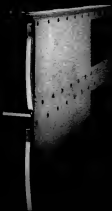
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